

MASTER OF SCIENCE IN FINANCE

MASTER'S FINAL WORK PROJECT

**EQUITY RESEARCH:
ARSENAL HOLDINGS PLC**

ANDRÉ FILIPE LEITÃO SALVADO

OCTOBER 2019

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**SUPERVISOR:
ANTÓNIO CARLOS DE OLIVEIRA SAMAGAIO**

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Abstract

This project was written in accordance with the CFA Institute guideline recommendations as well as the ISEG's master's in finance final work project standards. A detailed analysis of Arsenal Holdings PLC was done. The analyzed company was selected by me based on his recent acquisition by Kroenke Sports & Entertainment UK Inc, looking a good starting point for a challenging valuation on an interesting industry with some attractive acquisitions over the years. Arsenal Holdings Limited is the holding of an English football club, Arsenal F.C that competes for top football trophies. The purpose of this project is to issue a financial opinion about the acquisition value paid for the company by calculating a target price.

Through FCFF approach a final valuation of £1,840.52m was reached, meaning a discount of 0.6% in the acquisition value paid. The result was supported by a complementary relative valuation.

All the information and data applied in this project was publicly available.

Resumo

Este projeto foi escrito de acordo com as recomendações de diretrizes do Instituto CFA, bem como as normas do projeto final de mestrado em finanças do ISEG. Foi feita uma análise detalhada do Arsenal Holdings PLC. A empresa analisada foi selecionada por mim com base na sua recente aquisição pela Kroenke Sports & Entertainment UK Inc, parecendo um bom ponto de partida para uma avaliação desafiante em um setor interessante com algumas aquisições atractivas ao longo dos anos. O Arsenal Holdings Limited é a holding de um clube de futebol inglês, o Arsenal F.C, que compete pelos principais troféus de futebol. O objetivo deste projeto é emitir uma opinião financeira sobre o valor de aquisição pago pela empresa, calculando um preço-alvo.

Através da abordagem FCFF, foi atingida uma avaliação final de £1,840.52m, significando um desconto de 0.6% no valor de aquisição pago. O resultado foi apoiado por uma avaliação relativa complementar.

Todas as informações e dados aplicados neste projeto estavam disponíveis publicamente.

Acknowledgements

One of the most challenging and grateful journeys of my life is about to coming to an end. A five years journey at ISEG, with a first degree in management and a master's degree in Finance in the pocket but also lots of knowledge, teachings, personal skills and friendships that I will keep along all my life.

I would like to say thank you to my parents for the opportunity that they gave me to study in one of the most incredible universities and to had believed in me. A special word to my brother and girlfriend who have stayed by my side during all my journey.

Finally to my supervisor, António Samagaio, for the guidance during all the project.

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Date: 6/08/2018

Acquisition Price: £29,419.64

Observation: Acquisition price 0.6% below target price

Ticker: AFC PZ

Target Price: £29,582.24

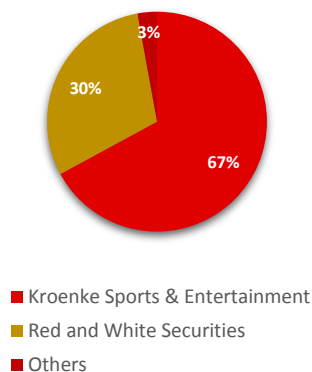
1. Research Snapshot

Table 1: AFC Market Profile

Market Profile	
Closing Price (06-08-2018)	£34,495.00
Shares Outstanding	62,217.00
Market Capitalization	2,146m
Last 6months trasactions	56
Free Float	1,779
Acquisition Price	£29,419.64
Target Price	£29,582.24

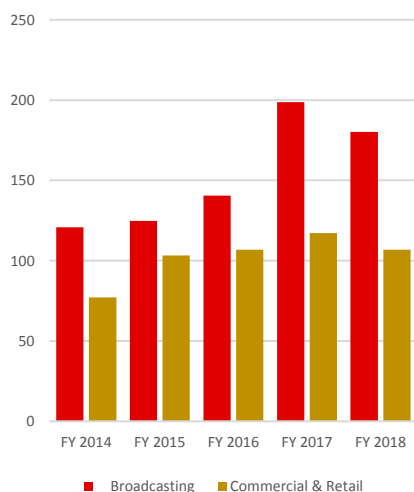
Source: AFC & AS computation

Figure 1: AFC share holders



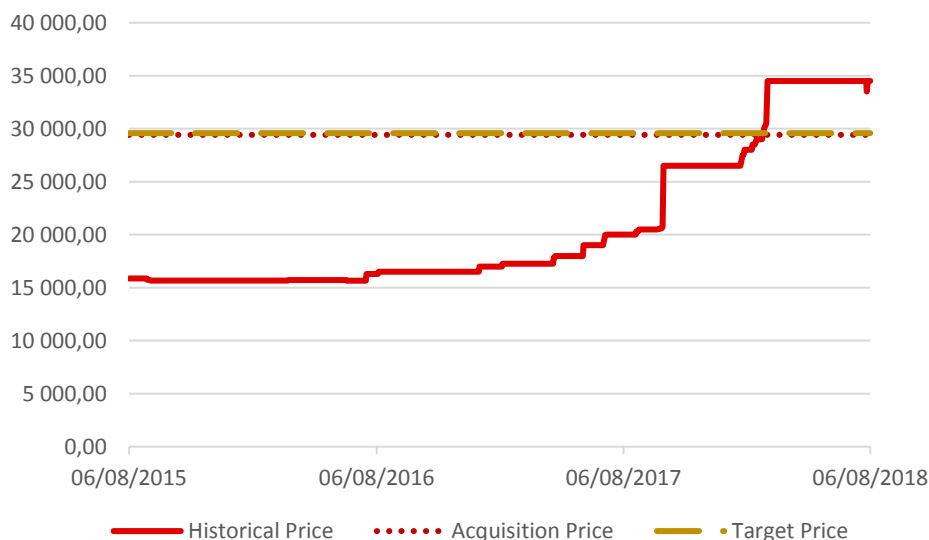
Source: AFC & AS computation

Figure 2: AFC historical revenues



Source: AFC & AS computation

Arsenal Holdings PLC was totally acquired by Kroenke Sports & Entertainment for £29,419.64 and according to my valuation this price was **paid with a discount of 0.6%** since my **target price was £29,582.24**.



Arsenal Holdings PLC, with the AFC ticker symbol, was publicly listed at NEX Exchange Growth Market, but on 5 October 2018 the company was re-registered as a private company as all the shares were acquired by Kroenke Sports & Entertainment UK Inc (KSE UK Inc). KSE UK Inc already held 41,743 AFC shares, which represents 67.09% of the 62,217 issued shares. For each of the remaining AFC shares, a value of £29,419.64 in cash was paid. AFC operates in the Consumer Discretionary Sector, Recreation Facilities Industry most precisely at Entertainment Facilities sub-industry, which includes the football segment. Arsenal shares showed very low liquidity as just 56 shares were traded during the six months prior KSE UK Inc offer, which could be the result of the poor floating rate with just 1,779 shares outstanding when subtracting the amount detained by KSE UK Inc and Red and White Securities, Alisher Usmanov's company (Table 1; Figure 1).

Perfect Geographic Location- Although Arsenal have not been able to win titles through last seasons, revenues continued to rise mainly due to broadcasting rights from top tier English league and European tournaments, with a historical average YoY increase of 10.51% since 2014 till 2018. Commercial Revenues with a historical average YoY of 8.50% during the same timeline demonstrate the globalization of the club with an increasing number of fans worldwide. (Figure 2) **Infrastructures vs Debt-** Investment in infrastructures were done by Arsenal, currently owning Emirates stadium, a redeveloped training center and a developed youth academy. No more investments are expected in sports facilities. The debt contracted were the result of the stadium financing, so the tendency is to reduce the debt as no other extraordinary investment is needed.

Figure 3: AFC chests



Source: AFC & AS computation

2. Business Description

Arsenal Holdings Limited is a London based group, being the main activity competing in professional football competitions, both at domestic and European level, represented by The Arsenal Football Club PLC, a subsidiary company. Arsenal Holdings Limited has 100% control of nineteen subsidiary companies, directly or indirectly, operating in the football industry ramifications or in the property development area due to the stadium construction (Appendix 12).

The club was founded in 1886 by a group of Woolwich Arsenal Armament Factory workers, which later would become the actual Arsenal Football Club. The club had different chests and official names, staying in the historical records Dial Square, Woolwich Arsenal and finally in 1915 Arsenal FC, remaining till today (Figure 3). The first game of the club was played in the late 1886 however the first official trophies were won in 1930, with a double mark, winning his first FA Cup and English league. At this moment the club has an enviable honours history with 45 trophies within which can be highlighted the record of fourteen FA Cup trophies, the largest number between all the English clubs (Table 2).

Strategy

The Arsenal Football Club board has an ambitious objective for the club future, be one of the best and must recognized clubs worldwide. To do that, the board members have created a long-term self-sustained business strategy, composed by four phases being win trophies the key objective. The pitch success leads to an uplift of the fan base, increasing the revenues which in turn are reinvested on the Principal Team in order to continuously follow the glory inside the field, ultimately translated in trophies (Figure 4)

Financial and Non-Financial Key Performance Indicators

Last season was full of nothing for Arsenal Team

The performance on the field is the first one to look at. On the previous season the performance was not the desired, with no trophy and a sixth-place in the Premier League (PL), which just gave access to participate on UEFA Europe League (UEL) instead of the UEFA Champions League (UCL), finishing the long journey of successive qualifications for this competition between 1998/99 and 2016/17 performing a total of nineteen, which is the English record. The best in terms of sportive performance was reach the UEL semi-final, just beaten by the tournament winner, Atlético Madrid.

Premier League and UEFA presence are essential to achieve success

Arsenal has the possibility to play in the PL and UEFA competitions due to his location, which are the most recognized football clubs' competitions, depending of on-pitch success. The huge visibility of these competitions leads to high broadcasting payments, which have contributed with 47% of Arsenal operating revenues (Figure5).

Arsenal popularity as a global brand

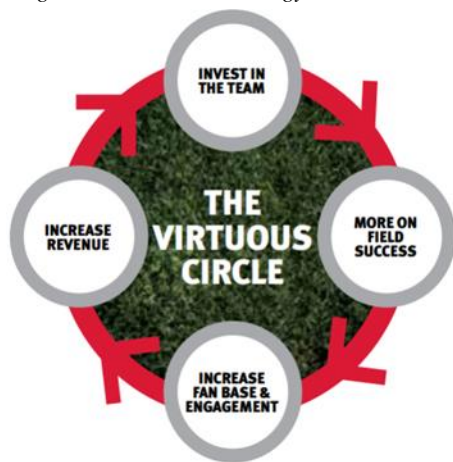
Arsenal popularity can be evaluated by looking to match attendance ratio translated in matchday revenue, social media followers and ultimately commercial deals. With a total of 60,260 seats, the Emirates stadium had an annual average attendance of 99% on each of the last three seasons accounting with 25% of operating Revenue (Figure 5). Social media is a new tool to reach additional fans or to create a more personal relationship with the actual supporters, and Arsenal is using these modern instruments very well, being one of the fifteen clubs with greatest number of followers on the principal's social media. The club has the incredible number of 38m, 10m and 9.6m followers on Facebook, Twitter and Instagram respectively, with the major part of the followers

Table 2: AFC honours

Arsenal Honours			
Competition	Total	Last victory	
DOMESTIC			
 Premier League	13	2004	
 FA Cup	13	2017	
 League Cup	2	1993	
 Community Shield	15	2017	
INTERNATIONAL			
 European Fairs Cup	1	1970	
 European Cup Winners Cup	1	1994	

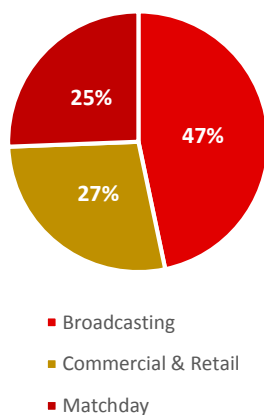
Source: AFC; TransferMarkt & AS computation

Figure 4: AFC board strategy



Source: AFC

Figure 5: AFC FY18 Revenues



Source: AFC & AS computation

based in Asia, mainly driven by the supporters of Indonesia. World class players can boost the popularity of the club, by attracting new fans that follow the player career. Mesut Özil with 31m, 24m and 18m followers is the Arsenal player with most followers, showing the importance of having top players, not just to improve the results inside the pitch but also outside it. As a worldwide brand, Arsenal recognition is an incentive for sponsors to be affiliated with the club, which can be seen by the new contract with Adidas as kit manufacture sponsor, starting in 2019/20 season for a period of five years, with the club receiving a total of £300m, the Fly Emirates partnership renewal with the value of £200m for shirt sponsorship, or even the “Visit Rwanda” sleeve sponsor three years contract with the value of £30m, starting in 2018/19 (Table 7). Commercial revenues were responsible for 28% of total operating Revenues (Figure 5).

Acquisition and retention of Key Players

Transfer fees and wage cost are the way to get a competitive team for fighting to win football trophies. Arsenal have made an effort and the additional transfer value of £165.8m in 2017/18 was the result of the acquisition of players like Alexandre Lacazette and Pierre Emerick Aubameyang, breaking twice the club record in transfers fees, with the amounts of £57.38m and £47.70m (Appendix 7). These two players as well as Mesut Özil three-and-a-half-year contract renovation have contributed to an increase on the payroll costs of 11.8%. Staff costs to operating revenue was 62%. and staff costs to operating costs was 50%. Although the wage cost of the club had increased 20% last season, from £199.4m in 2017 to £240.06m in 2018, or 12% if excluding exceptional, which is one of the main contributors of the Group expenses, the Profit after tax increased to £56.5million in 2017/2018 season comparing to £35.3m on the previous season.

3. Management & Governance

Board Structure and members

The board of directors is composed by five directors instead of six, after the resignation of I.E Gazidis on October 31, 2018. The directors need to be re-elected after serving the club on the Board during a period of three years, being the members in functions: Sir Chips Keswick, Ken Friar OBE, Lord Harris of Peckham, Stan Kroenke and his son Josh Kroenke. The board members must decide the long-term strategy and objectives of the Club and also analyze the Group performance, helped by financial statements. Arsenal is based in UK and so is subject to internal laws for companies, done by the Parliament of the United Kingdom, in this case the Companies Act 2006, the main basis of company law in UK.

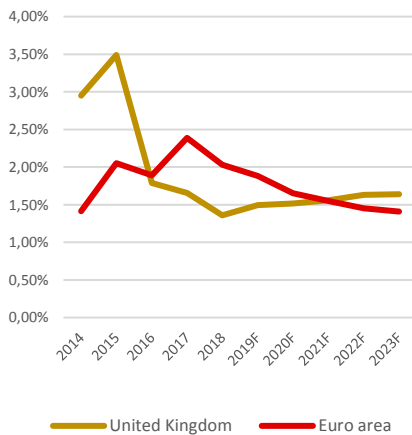
Sir Chips Keswick was elected Arsenal Holdings Limited’s Chairman in June 2013, continuing the journey started in November 2005 as an Arsenal director. He had a prestigious career as banker for over 50 years, accumulating an impressive number of director positions such as Chairman of Hambros Bank 1986-1998 and Bank of England 1993-2001.

Mr. Ken Friar OBE has been with Arsenal for 60 years and presently is one of the 5 Directors, the one with the longest career at the Club, having done almost every job.

Lord Harris of Peckham was selected to be part of the Arsenal board as Director in November 2005. He was a young entrepreneur linked with the carpet retail. Nowadays support a charity projects and activities to helping the development of young kids.

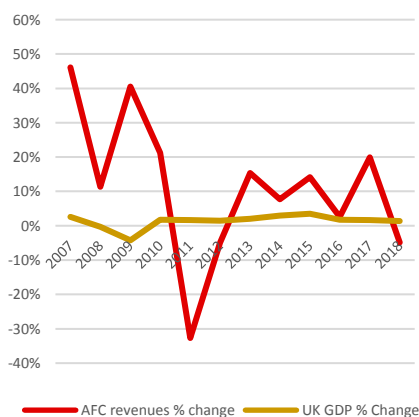
Stan Kroenke has started is connection with Arsenal in 2007. Since April 2008 he is board director, obtaining a majority equity position in 2011. He is owner of Arsenal since is the holder of Kroenke Sports & Entertainment UK INC. His company owns clubs in different sports such as the Denver Nuggets of National

Figure 6: UK vs EU - GDP



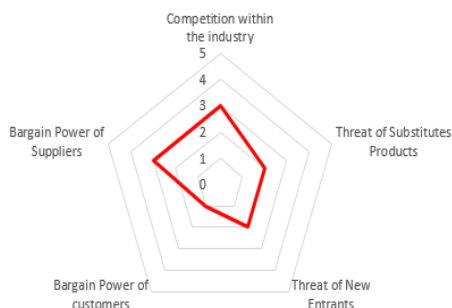
Source: IMF & AS computation

Figure 7: AFC Revenues growth vs UK GDP growth



Source: IMF, AFC & AS computation

Figure 8: Porter's Five Forces



Source: AS computation

Basketball Association, Los Angeles Rams of National Football League, Colorado Rapids of Major League Soccer and Colorado Avalanche of National Hockey League.

Josh Kroenke is Director of Arsenal Football Club board, where he has joined in December 2013. He is Stan Kroenke son and has a close relationship with all the Kroenke Sports & Entertainment UK INC sports clubs, being the Denver Nuggets and Colorado Avalanche president.

Sustainability and Social Responsibility

Arsenal's sustainability strategy is focused in four key areas to achieve an ongoing environmental enhancement, having done projects and upgrades in all of them: Energy Consumption including the replacement of floodlight and petrol pitch mowers to LED floodlight (reducing in 30% the consumption) and to electrical pitch mowers; Waste Management & Disposal including the supervision of the suppliers in order to reduce the environmental impact due to their products or transportation, intention to use recycled materials and procedure to waste separation on gamedays; Water Consumption including the implementation of new system at training ground to recycle irrigation water; Travel by reducing their impact on the environment, by supplying the staff with cycling facilities. All these policies and operations are evaluated by an Environmental Management System (EMS)

4. Industry Overview and Competitive Positioning

United Kingdom Economic Outlook

In the aftermath of an eminent exit of the European Union, UK has been on negotiations to have an orderly exit. All the political uncertainty around this process leads to a real GDP growth projection of 1.1% in 2019 before rising slightly to 1.6% in 2020 (Figure 6). Through the last three decades London has consistently outperformed in terms of economic growth when compared with the other regions of UK and this tendency seems to continue in the future with 1.2% and 1.8% growth projections to 2019 and 2020. A disorderly 'no deal' Brexit could lead to a significantly less favorable outcome for growth forecasts.

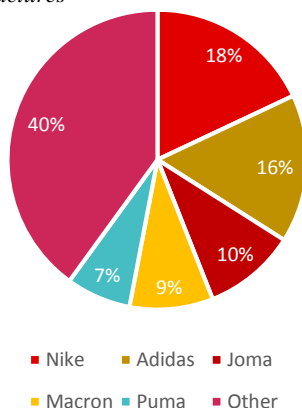
PESTEL analysis of the Industry

Political factors: European governments can affect the club's financial results thought tax law at Foreign and Domestic income, including tax residence topics. With a favorable tax law, clubs can offer a bigger wage when compared to clubs based in other countries, which can be seen as an advantage to attract new key players. UK decision to leave EU has led the value of pound weakness against Euro, which leads to higher fees for player transfers from EU but also, on the other, increasing the sterling value of European competition distributions paid out to clubs by UEFA in Euros.

Economic factors: As we can observe from the financial crisis data (2007-08), (Figure 7) the key drivers of profitability did not suffer any decrease, indicating that the industry is non-cyclical with an inelastic price demand curve, even with negative UK GDP. However, there are some cautions to be taken because a downturn of the economy in the future could be followed by an expenditure cut of some industries that are interconnected with football industry, leading to a decline in the revenues of football companies.

Socio-cultural factors: European football is more diverse than ever, with UEFA striving to convey this clear message that football is for everyone. Football bodies

Figure 9: Market share of leading Kit Manufacturers

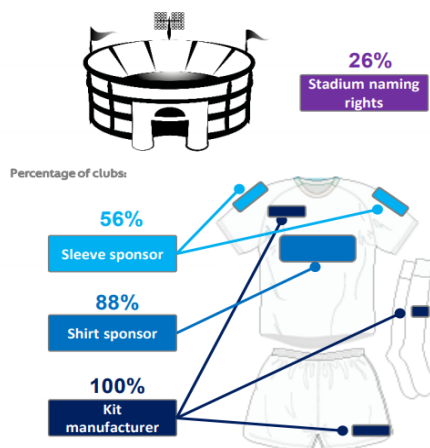


Source: UEFA Club licensing benchmarking report & AS computation

are actively participating in campaigns related to society problems. Promoting equality where all people can participate are some of the ideas behind the recent UEFA "no to racism" campaign. Also, the latest agreement between Stonewall and The Premier League to defend and promote LGBT inclusion not only in football but into the society. Football is an industry which protects and defends diversity and inclusion across all different ethics, genders, ages, orientations, abilities or social backgrounds.

Technological factors: Technological factors enhance football as sport due to all the new devices used during the match, like VAR (video assistant referee) or goal-line, helping to construct a fair game to all the fans but also improving players performance due to EPTS (Electronic performance and Tracking Systems). Technology is more important than ever for the clubs because they can construct a permanent relationship with supporters, improving financial results. Social media platforms or official websites of the clubs can provide an excellent chance to not only secure their existing fans, but also attract potential ones. Top 15 clubs have an aggregate of 169m, 638m and 272m followers on Twitter, Facebook and Instagram with Real Madrid in 1th.

Figure 10: European Sponsors overview



Source: UEFA Club licensing benchmarking report

Environmental factors: Although environmental factors are not an alerting topic for the industry, football clubs are using their power to alert supports for the Climate changes, promoting some campaigns as a form of sensibilization. Some clubs like Arsenal has developed a commitment towards environmental responsibility.

Legal factors: The main body of European football has created Financial Fair Play in 2009 to bring responsibility, rationality and transparency to club's financial management. Since 2009, this regulation has helped to reduce to less than 20% overdue debts and losses of the European clubs. The environment created encourages and attracts investors to look for this industry as it is increasingly financial attractive.

SWOT analysis

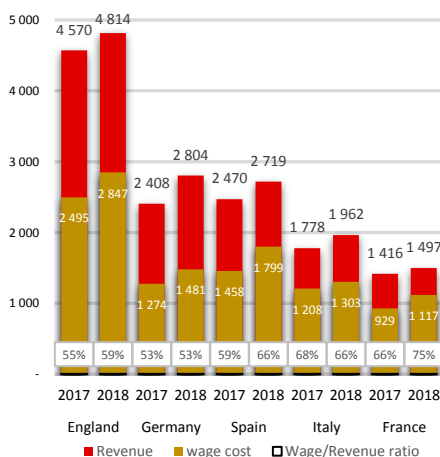
Strength: Football is the most famous sport in Europe, fascinating fans from all around the countries to see the best players who are enticed by the best championships, played in Europe. Football visibility is a strength of the Industry since attract sponsors from all over the world. High barriers to entry into the industry due to league rules ally with supporter's loyalty permit top clubs to continue increasing their name as a global Brand.

Weaknesses: To have the best players and staff, clubs incurred in elevated wage costs with wage to revenues ratios of 55% between PL clubs in 2017, or 59% among clubs in the Spanish first division (Figure 11). Although the ratio has decreased in 2017 when compared with the previous years, the total amount spends in wages increased in 18 of 20 best European Leagues.

Opportunities: The power of the new technologies can be used by football clubs, turning the supporters addicted to the club by doing a continuous marketing forcing on the social media, creating a more personal relationship with fans which can permit an increase of the fan base as well as commercial revenues. Economies of scale, which did not appear to be possible in the football industry, is a reality due to the multi-club model, already used by Red Bull who owns clubs in Austria, Germany, United States and Brazil. This model can be very successful due to the possibility of a worldwide expansion, diversifying the markets, creating a super structure to scout young players and switching them across all the owned clubs.

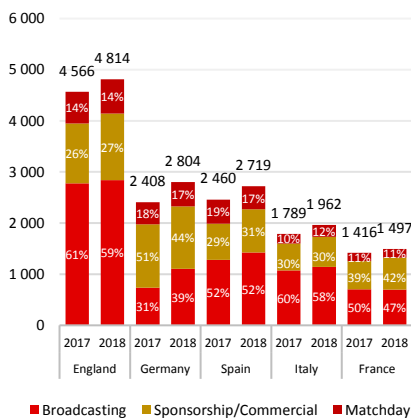
Threats: The impediment of participate in the most recognized and lucrative competitions due to relegation is a real threat between top-tier clubs, which could block them to contract top players because they want to play in top leagues with most visibility, to close sponsor contracts or nice broadcast agreements, which

Figure 11: Big Five European league clubs 'revenue and wage cost



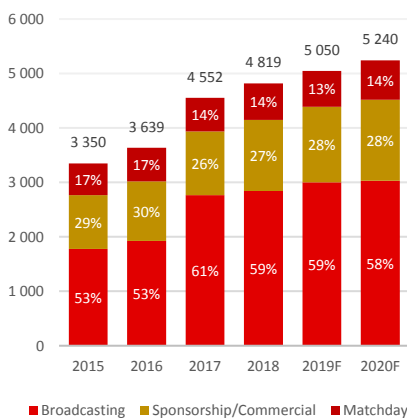
Source: Deloitte Football Report & AS computation

Figure 12: Top 5 leagues overview



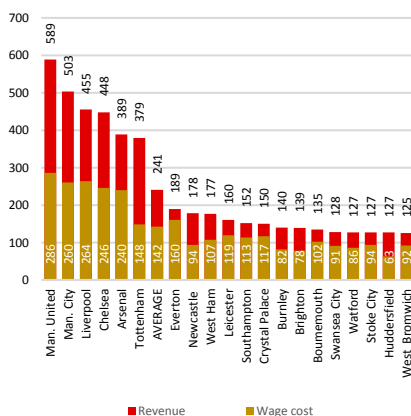
Source: Deloitte Football Report & AS computation

Figure 13: PL clubs 'revenues



Source: Deloitte Football Report & AS computation

Figure 14: PL clubs 'revenues and wage costs



Source: Deloitte Football Report & AS computation

could lead the club to a critical financial situation. The development of Chinese championship, ranked as the eighth country with highest transfer expenditures and also the highest outside Europe, could affect the future of European football if clubs would not be able to secure the best players due to salaries or visibility, affecting all the revenues sources. The replacement of football as top European sport is a possibility in the future which could drastically decrease the visibility of the clubs.

The "Porter's Five Forces"

Bargaining power of Customers - Very Low

Consumer behavior are very special in the football industry due to loyalty. Supporters choose one team and never change for another rival/competitor. Bargain power of consumers are very low since demand does not decrease with higher prices (price sensitivity), meaning the existence of an inelastic curve of demand. During 2007 crisis the clubs continued to increase financial results. According to 2008 and 2009 Arsenal reports, the club reached two consecutive records of annual retained profit levels.

Threat of new Entrants - Low

In 2016/17 season 727 clubs were competed in men's national championships in Europe. There are no barriers for new competitors in football industry, but the clubs have to start from the bottom division and there are a lot of competition to achieve the best league of each country, which can give access to international competitions, with better prizes and recognition. It is not easy to achieve top-tier competitions due to the rules of each country leagues. The only way to clubs enters into the market, top-tier leagues, is to be promoted, and the clubs participating in top-tier leagues are aware of the potential promoted clubs.

Threat of Substitute Products - Low

Football is a live entertainment like theater or others live sports, but fans do not prescind to see their football team, for them the final product of the industry, the intangible product "football game" cannot be compared with other kinds of entertainments. Football is the most followed sport in Europe, and now with the increase of interest from new regions around the world, like North America and mainly Asia, the football will continue to raise levels, increasing the revenues of the industry. The unique Threat is the football himself, with China or American championships valorization in the recent years, one day could fascinate more attention all around the world, attracting the world best players to play there, which could affect the European football, but in the near future these scenario does not seem to be a real problem.

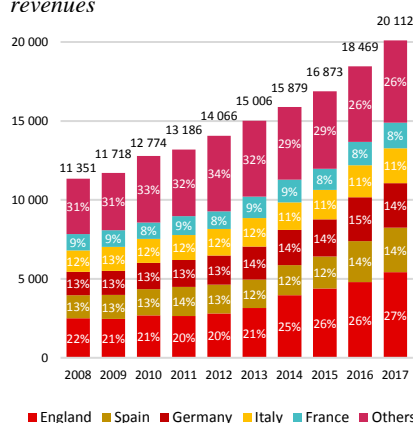
Bargaining power of Suppliers - Median

There are different types of sponsorships across the football industry. Kit manufacture and shirt sponsors are the most popular thought the European clubs, with all the clubs having manufacturer deals and 88% shirt sponsor across the 16 biggest European leagues during 2017/18 season (Figure 10). The 30 major clubs have as average of kit manufacture and shirt sponsor deal duration of 7.9 and 4.4 years respectively. There are 62 different kit manufactures in the industry with the two main suppliers sharing 34% of all market (Figure 9). Just 13% of the clubs changed their kit manufacturer for the 2017/18 season however a higher number of clubs have changed the shirt sponsor, 22% or 25% if clubs without sponsor were excluded.

In addition, sleeve sponsor and stadium naming start to become an important source of income also, with 56% and 26% across 16 top European leagues with closed contracts (Figure10).

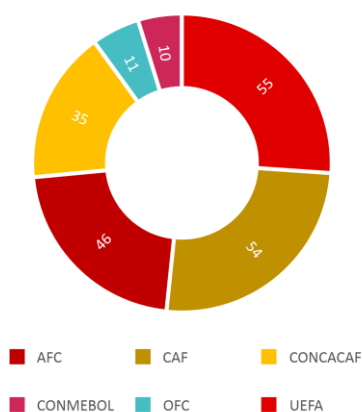
It does not seem to be difficult for clubs change sponsor or supplier when the contract finish. However, the amount involved in the contracts is a huge part of club's total revenues which gives some power to suppliers.

Figure 15: Segmentation of European football revenues



Source: UEFA Club licensing benchmarking report & AS computation

Figure 16: FIFA associations



Source: FIFA & AS computation

Table 3: UEFA Club coefficient Top 10

UEFA Club Coefficient TOP10		
Rank	Club	Country
1	Real Madrid CF	SP
2	Club Atlético de Madrid	SP
3	FC Bayern München	GER
4	FC Barcelona	SP
5	Juventus	ITA
6	Sevilla FC	SP
7	Paris-Saint-Germain	FRA
8	Manchester City FC	UK
9	Arsenal FC	UK
10	Borussia Dortmund	GER

Source: UEFA & AS computation

Competition within the industry - median low

Customers loyalty, with high emotional switching costs, seems to be an impediment for clubs to steal supporters from the other clubs, which decrease the competitiveness between them. However, results on the field are a key factor for the financial results of the club, meaning that every club wants to win, increasing the competition. However, no one wants to see a monopoly league, where the winner is known at the beginning of the season which would turn the league disinteresting to follow or invest. So, competition is beneficial for the clubs, leading to an increase of popularity which would be translated in higher revenues.

Key Drivers of Profitability

Football industry has three main sources of revenue leading clubs to successful results throw the years, to know: Broadcasting, Sponsors & Commercial and Matchday Revenues. Broadcasting rights are negotiated by the responsible bodies for organize the competition, UEFA for international competition like UEFA Champions league, Europa League and the UEFA Super Cup, and the domestic broadcasting rights are negotiated differently in each country. In UK, PL broadcasting rights are negotiated by the PL and half of the total value is equally distributed among all the participating clubs, the remaining 50% is divided in two parts, 25% for each one: "Facility Fees" based on the frequency of club games broadcasted during the season in the UK; "Merit Payments", based on the final classification of each club in the PL table. PL International broadcasting rights are equally distributed by all the participating clubs. Sponsors & Commercial Revenue are dependent on the club historical performance, global followers and brand power. Sponsors are interested to close agreements with top clubs that share the same values and that could add them value. These revenues are mainly supported by sponsorship deals through kit manufacturer, shirt sponsor, sleeve sponsor and more recently stadium naming rights. Matchday Revenues are translated in the ability of the clubs to generate revenue from the football game itself which can include the ticket sales and hospitality sales that are dependent on the stadium size, which can limit the stadium attendance. In the other hand the major part of expenses is due to staff costs, mainly paid to key players of the teams. Staff costs can include variables payments related to performance, with bonuses for specific achievements or cuts to poor results.

European key drivers outlook

Cumulative revenues between European clubs showed an increase of 8,47% CAGR, an overall increase of 38% since 2013/14 till 2017/18 with 'Big five' European leagues sharing 55% of European Revenues last season (Figure 15). In 2017/18 season the revenues across the 'Big five' European leagues clubs were driven by domestic broadcasting rights with an average of 51%, sponsorship & commercial with 35% and gate receipts with 14% (Figure 12). All 'Big five' European leagues increased the cumulative revenue, 9.1% YoY, as well as the wage costs, 16.1% YoY, as a result the wage to revenue ratio increased to an average 62%, meaning that the wage cost growth outpaced revenue growth. PL continues to lead the rank as the one with highest Revenues as well as Wage costs but with the 2th lowest wage to revenue ratio of 59%.

Premier League key drivers outlook

During 2017/18 the average revenue of £241m was reached among PL clubs, demonstrating the continually uptrend of the revenues with an increase of 5.7% YoY, or 48% when compared to 2013/14. Broadcasting represents 59% of total revenues with the ratio between the highest and lowest PL broadcast payment of 1.59, between Manchester United and West Bromwich Albion, which is a good measure to improve the competitiveness (Figure 14). Commercial revenues

Table 4: KPMG EV Top 10

KPMG EV Classification		
Rank	Club	Country
1	Real Madrid CF	SP
2	Manchester United FC	UK
3	FC Bayern Munchen	GER
4	FC Barcelona	SP
5	Manchester City FC	UK
6	Chelsea FC	UK
7	Liverpool FC	UK
8	Arsenal FC	UK
9	Tottenham	UK
10	Juventus	ITA

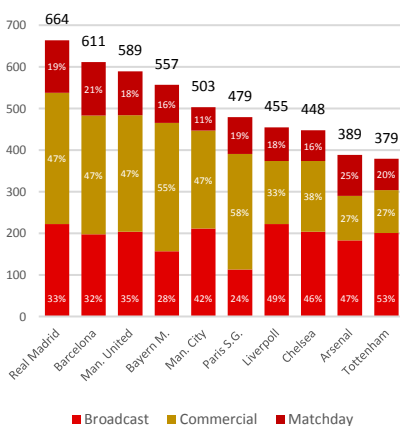
Source: KPMG Football Benchmark & AS computation

Table 5: Clubs 'Operating Revenues Top10

Football Op. Revenues		
Rank	Club	Total
1	Real Madrid CF	664.07
2	FC Barcelona	611.27
3	Manchester United FC	589.38
4	FC Bayern Munich	556.81
5	Manchester City FC	503.01
6	Paris Saint-Germain	479.38
7	Liverpool	454.60
8	Chelsea	447.52
9	Arsenal FC	388.67
10	Tottenham	379.03

Source: Deloitte Football Report & AS computation

Figure 17: Top10 Revenue segmentation



Source: Deloitte Football Report & AS computation

represented 27% of total revenue with an increase of 11.7% YoY, where all the clubs were able to close kit manufacturer, shirt sponsor and sleeve agreements. Matchday revenue is the lowest one among PL clubs despite existing more people going to the stadium. UK clubs dropped the away ticket prices due to PL cap of £30 on away fan ticket, to get prices more accessible to everyone. Match attendances grew 7% in 2017/18 season to a total of 14.6m, an average matchday attendance of 38,500 and 96% of stadium utilization, with the revenue increasing 8%. Total wage costs of PL clubs increased 14.11% to £2,846.9m, representing an average of £142m, leading the wage to revenue ratio to 59% which is lower than UEFA limit recommendation of 70% but higher than the previous season.

Whilst the PL's central distribution mechanism remains the most equal amongst the 'big five' leagues, there remains a significant revenue variance between groups of clubs within the league. The 'big six' clubs generated an average of £415m each in 2016/17, compared to just £147m across the rest of the clubs.

Prospects for the future - UK clubs

The new cycle of the PL tv rights, starting in 2019/20 and for a period of 3 seasons, will record an uplift of 8% overall, with the 30% increase of international rights offsetting the decline in domestic rights. The new contract will continue to guarantee the 1st position as the richest league in the short term. In 2018/19 starts a new cycle of UEFA broadcasting rights as well as the new qualifying rules based on the association coefficient ranking which puts 7 PL Teams on UEFA tournaments, 4 in the UEFA Champions League and 3 in UEFA Europe League, which will increase the overall revenue among PL teams. PL clubs' revenue are expected to rise to £5.05b in 2018/19 and to £5.24b in 2019/20 (Figure13). By looking for the wage costs and the final league position it is possible to see a high correlation, with all the top 6 having the highest wage costs. Although this correlation will lead the clubs to spend more money in wage in order to have the best player to fight for the best final position, it is not expected to increase much above 60% the wage costs/revenue ratio, which is a good measure to see the profitability of the clubs. Sponsorship & Commercial agreements are the way to clubs differentiate in the future, as broadcast are relatively equal and matchday is restricted to stadium capacity, supported by on-pitch performance and trophies.

Organization of professional football

Football is a global game and the football industry can be analyzed as a worldwide industry. FIFA was the main responsible for the expansion of the football all over the world. This association was founded at the start of the 20th century, in 1904, with the principal objective of unify the laws of the football game to make it fair for all. Global football is organized into six confederations, which are recognized by FIFA, to know: AFConf, CAF, CONCACAF, CONMEBOL, OFC and UEFA, with all of them having affiliated associations as representative of FIFA in each country, performing a total of 211 associations. (Figure16) Professional football competitions can be divided into 3 different types: national team competitions, international club competitions and national club competitions.

Mix of 3 Ratings– Sportive Peer Group

Since Arsenal is a European football Club based in UK, can compete for UEFA International Club competitions named UEFA Champions League, the most recognized football tournament, or for UEFA Europa League, the second level of UEFA International club competitions. Can also compete for UK competitions as Premier League, FA Cup, League Cup or FA Community Shield. Peer group should be a bunch of companies operating in similar business activities, affected by the same factors. Arsenal should be compared with European Clubs, who are influenced by European GDP and UEFA payments.

Table 6: UEFA Club coefficient top 25 & listed clubs

UEFA Club Coefficient TOP25		
Rank	Club	Country
1	Real Madrid CF	SP
2	Club Atlético de Madrid	SP
3	FC Bayern München	GER
4	FC Barcelona	SP
5	Juventus	ITA
6	Sevilla FC	SP
7	Paris-Saint-Germain	FRA
8	Manchester City FC	UK
9	Arsenal FC	UK
10	Borussia Dortmund	GER
11	FC Porto	PT
12	Manchester United FC	UK
13	Chelsea	UK
14	Shakhtar Donetsk	UKR
15	Benfica	PT
16	Zenit	RUS
17	Napoli	ITA
18	Basel	SWI
19	Tottenham	UK
20	Leverkusen	GER
21	Roma	ITA
22	Liverpool	UK
23	Dynamo Kyiv	UKR
24	Schalke	GER
25	Lyon	FRA

Source: UEFA; Bloomberg & AS computation

UEFA has developed a European club ranking based on the results achieved on UEFA competitions during previous seasons. Top 10 at the begin of 2018/19 season and based on the last 5 seasons is disclosed in Table 3. KPMG has ranked the clubs according to EV based on different factors like profitability, popularity, sportive potential or stadium ownership.

According to KPMG and based on the data at the end of 2017/18 season, Manchester United, Liverpool FC, Chelsea as well as Tottenham deserve a place at top ten (Table 4). To support these rank, total operating revenue from football activities was investigated. Top10 according to this criterion was fully complete by clubs between the other two methods (Table 5). The final list of sportive peers was composed by fourteen clubs, the European top ones (Table 6). These clubs are trying to transform their business, a natural entertainment companies, into global brands, fighting not also for prestigious trophies but also to attract fans, customers and audiences on a worldwide level.

Domination of European Football

Champions League winner during last 10 seasons was 9 times one of these 14 clubs, the only exception was in 2009/10 when Inter managed by José Mourinho beat Bayern Munich by 2-0. At National championship level, the League title was won 75% times by these teams, with Juventus, Bayern and Barcelona conquering 7 in 10 possible (Appendix 4).

All these clubs have stadium, which is a very important assets for clubs, giving the possibility of generating higher levels of revenues by different sources rather than just by hosting the club football games. With a stadium ownership, clubs can host a lot of different events like NFL games or music concerts, sell the naming rights or even develop different and innovative features to incentive tourists and locals to visit the stadium. This will enable the clubs to generate additional revenues with the stadium even in a non-matchday.

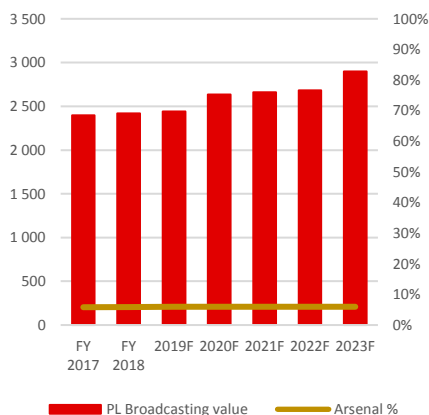
Top 10 by revenues generated £5,073.75m in operating revenues in 2018, an average increase of 6.81% YoY, being that commercial and broadcast revenues are the ones with the highest percentage with 44% and 38% of the total amount, furthermore the average match attendance was over 57 thousands which generated the remaining 18% of operating revenue (Figure 17). Between these ten clubs, Real Madrid was the one with highest revenues, £664m. During 2017/18 season these clubs were responsible for almost 23% of the total operating revenue generated by European clubs, which was £25b.

5. Investment Summary

Based on the valuation methods performed, I consider that the price paid by KSE UK Inc of £29,419.64 per share was 0.6% below my target price, £29,582.24. Popularity uptrend of the football industry, followed by new broadcast contracts of EPL as well as UEFA competitions, new closed sponsorship contracts and the ingoing liquidation of the Stadium financing debt are some of the reasons that support my valuation.

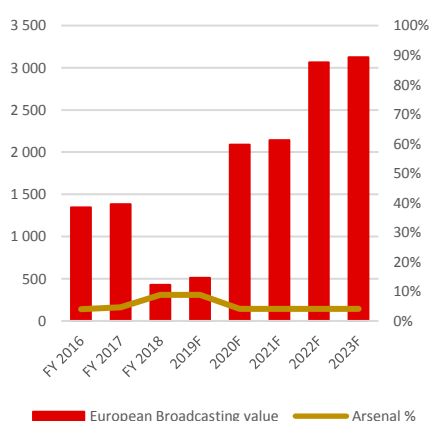
To perform AFC target price at the acquisition date I computed the FCFF method, discounting the cash flows through WACC rate. Enterprise Value was calculated as a whole, because it is expected that just the football business unit will continue to have ingoing operations. In order to get an alternative valuation that could reinforce/confirm the main method, multiples valuation was also performed, with the results suggesting a higher valuation than DCF, with a target price of £32,801.51 per share. To select comparable companies, I decided to use UEFA club's ranking, related to sporting performance, and Bloomberg terminal to get financial data.

Figure 18: AFC PL broadcasting revenues



Source: AFC & AS computation

Figure 19: AFC UEFA broadcasting revenues



Source: AFC & AS computation

Table 7: AFC Sponsor deals

	Kit manufacturer	Shirt Sponsor	Sleeve sponsor
Old	Puma 30	Emirates 30	n/a
New	Adidas 60	Emirates 40	Visit Rwanda
Changing date	2020F	2020	2019F
Maturity	5years	5years	3years
Δ Revenue	30	10	10

Source: AFC & AS computation

Football Industry has risks, and both clubs and investors should be prepared and aware for the possible impact that some external factors could have on the company sustainability. Some variables and assumptions of the discounted cash flow model were stressed in order to understand how they could affect the target price. The risks for the club were also analyzed.

6. Valuation

Two valuation methods were used based on different valuation approaches: relative valuation with comparable multiples and absolute valuation with Discounted Cash Flow by FCFF. Arsenal have not paid dividends and so DDM was not taken into consideration.

Absolute Valuation – DCF Method

To perform the DCF Method some assumptions were done regarding the components of the Financial Statements. The forecast was done for a time frame of five years and with a final Terminal Value, which accounts for the major part of the company valuation by assuming a perpetuity for the club operations.

Revenue: To forecast Arsenal revenues, I followed what Arsenal have done in previous Income Statements reports, by splitting them into two business units: Football and Property Development. Football area is composed by four different sources of revenue while Property Development is related with real estate activities associated with the stadium construction.

Football business unit

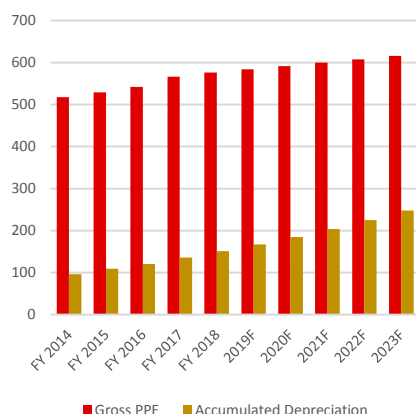
Broadcasting: Total Broadcasting Revenues includes PL and UEFA revenues. PL Broadcasting Revenues were forecasted based on an average of last 4 years ratio of arsenal revenue for total PL distributions among the clubs. This payment value is based on factors explained before. The value of the total payment is already disclosed for 2019 (present broadcast cycle) but also for the new cycle which starts in 2020 and for a period of three years. In 2023 I applied an increase of 8% based on last cycle upgrade. An adjustment of 0.88% YoY was done during each year of the cycles to reflect variations of new deals agreements as seen during last cycle (Figure 18). UEFA payments follow the same rational of looking to past receipts as a percentage of the total payment distribution to clubs, but in this case depending on the competition: UCL or UEL. It is assumed that Arsenal will play in UCL in all the forecasted periods except for the next season (2018/19) where they couldn't get a qualification. This assumption was done based on Arsenal historical European performance. The new broadcast cycle starts next season and the value of the total distribution is public. To forecast the new contract value, I used an average of the uplift observed on the renegotiation of the last two cycles (50.18%). An adjustment of 2.5% YoY during each cycle was done (Figure 19).

Commercial and Retail: Commercial and Retail Revenues are agglomerated as it was done in the last Arsenal official report (2018). Arsenal Sponsorship contracts will suffer an upgrade in 2019 due to an addition of sleeve sponsor, but mainly in 2020 with the end of some contracts and the value of the new ones. Adidas will substitute Puma and Emirates will increase the payment to be the shirt sponsor. All these changes were accounted, with the addition of the assumption that all the remaining revenues increase 1.2% YoY based on retail and some new small local agreements (Table 7).

Gate and Other Match Day Revenues: This portion of Revenues is dependent on the stadium capacity. Arsenal have a record of 99% occupancy rate during last 3 seasons and it is expected to continue. An average of the last 5years was done and used as forecast.

Player Trading: The value receipt with Arsenal players loans is a small part of total revenue (around 1%), and it is not used as a source to obtain revenues but as a way to control wage cost by loaning surplus players. The average of last five years was applied as future forecasts.

Figure 20: Gross PPE vs Acc. Dep.



Source: AFC & AS computation.

Property Development Area

Due to the construction of the new stadium in 2007, Arsenal has been using the properties of the old stadium as a source of revenue. Nearly all the properties were sold with just one remaining as a stock. I assumed the same cost and profit margins as the ones observed on the last property sale, in 2018. After this sale, no more revenues will be recorded by this source as no more properties will be available.

Staff cost: Staff costs are the largest cost within the industry. Historical average of Arsenal staff costs was equal to 53.7% of total revenues. This relationship was used as staff costs forecast.

Total depreciation, amortization and impairment: Depreciations are applied to tangible fixed assets, which include the Emirates Stadium and all the remaining PP&E. As AFC report does not disclose detailed information about each asset net value, I utilized accumulated depreciation to get the depreciation of the period. It was assumed that depreciation shall follow the same CAGR recorded in the last 5 years (8.95%), based on the “disinvestment” in installations. Amortizations affect intangible fixed assets, mainly composed by PR. The amortization of PR is a stable percentage of total cost of player registrations and so it was assumed the average of the last five years of 17.11% for the forecasted period. Goodwill is no longer amortized, and his value is assumed to not increase in the future. Impairment of player registrations are related to players who suffered a career threatening, which are quite uncommon. In the last five years it was recorded values in this rubric just twice, the average of these years was used as the forecast value (Figure 20).

Disposal and acquisition of player registrations: The relation between acquisitions and disposal of PR was assumed to be 1.54 based on peers’ transfer activity of the last three years (Appendix 6). The acquisition of player registrations was defined as 33.69% of total revenue following the average of last 4 years without 2016, as it was considered an outlier. Transfers revenue was calculated through the money spent in transfer divided by the transfer multiple. The value of the sold players was assumed to be 83.77% liquidate according to last year records. Total transfers income can be found by subtracting the net value to total transfers revenue.

Cost of Capital – WACC Assumptions

Weight Average Cost of Capital was used as discount rate based on the after-tax requirement rates of return of debt and equity, having into consideration the capital structure.

Cost of Debt was calculated as the interest expense over the total debt for each year. AFC used financial instruments to fix interest rate of future debt payments, ranging from 5.82% to 5.85%.

Cost of Equity follow CAPM based on some assumptions: Income Tax rate was considered to be 19% in 2019F and 17% in the remaining years according to AFC forecasts; RFR (Risk Free Rate) was established as the 10Y bond from UK, which reflect the Brexit context; From Damodaran database it was assumed the values of CRP (Country Risk Premium) at 0.69% and the value of UK MRP (Market Risk Premium) at 6.65%. Arsenal stocks were thinly traded, so the Pure-Play beta Method was applied based on peer’s data from Bloomberg, and the final value of 0.241 was achieved for the unlevered beta (Appendix 8). The levered beta is calculated for each year by considering capital structure and tax rate differences.

Terminal Value Assumptions

AFC still shows high increases of revenues throw the years, with broadcast and commercial contracts reaching new highs every time that they are renegotiated, outperforming the economy pace. However, the mature phase of the industry, which include AFC and all the other peers, should be considered and so a conservative TV growth rate approach was applied by adjusting the theoretical TV growth rate of 2.89%, with a reduction of 100bps. (Appendix 8)

Table 8: DCF Analysis

DCF Analysis	FY 2018	TV
COST OF EQUITY		
RFR	0.47%	2.00%
βI	0.258	0.255
CRP	0.69%	0.69%
Cost of equity	2.88%	4.39%
COST OF DEBT		
Cost of debt	5.82%	5.85%
Tax-rate	20%	17%
After-tax cost of debt	4.65%	4.86%
Weight of equity	91.73%	92%
Weight of debt	8.27%	8.00%
WACC	3.02%	4.42%

Source: AFC & AS computation

Table 9: EV/EBITDA Multiple valuation

EV/EBITDA	
AFC EBITDA	186.73
Multiple	10.73
EV	2,002.90
AFC Debt	(38)
Outstanding:	62,217
Share Price	32,801.51
Difference	11.50%

Source: AS computation

Relative Valuation – Comparable Multiples

Comparable Multiples is an easy and useful instrument to complement Absolute Valuation Methods as DCF. With the aim to confirm the DCF valuation I did a cross check with the comparable multiples. Relative Valuation assumes that a company valuation can be achieved based on the value of comparable companies.

Comparable multiples consist on the valuation of a company based on ratios (multiples) of similar (comparable) companies. Comparable companies are known as peers.

Enterprise Value/EBITDA multiple was the selected to perform the relative valuation, as it has low sensitivity to effects of financial leverage/capital structure compared to price multiples.

$$EV = \text{Market value of common equity} \\ + \text{Market value of preferred stock (if any)} \\ + \text{Market value of debt} - \text{cash and short term investments}$$

Peers are a vital piece to perform this method and so the process of selection should be carefully done to get the proper peer group. To pick Arsenal's peer group an alternative approach was used to obtain the most similar companies. The resulting peer group reached was composed by seven firms from five different countries. Olympique Lyonnais Groupe SA, Sport Lisboa e Benfica-Futebol SAD, Futebol Clube do Porto, Juventus Football Club SpA, Borussia Dortmund GmbH & Co KGaA, AS Roma SpA and Manchester United Plc were the final peer group. (Appendix 5; Table 6)

Based on data extracted from Bloomberg, a four years analysis was done. A weighted average was applied giving more importance to Manchester United data (66.66%) based on similarity of economic factors with Arsenal.

The final valuation of £32,801.51 per share was reached, indicating a discount in the price paid of 11.5% (Appendix 10; Table 9). The Multiples valuation suggests a higher value than DCF valuation. The percentage of 66.66% attributed to Manchester United can biased the final valuation as it is the 3rd in the Operating Revenues ranking (Table 5), 1.54 times Arsenal Revenues and also a lower staff costs to revenues ratio (0.48 instead of 0.55).

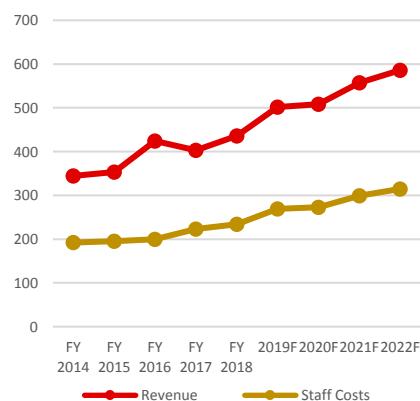
7. FINANCIAL ANALYSIS

AFC financial performance was evaluated by looking at historical and forecasted values, highlighting some KPIs illustrated by profitability, liquidity and solvency ratios (Appendix 3).

New era of broadcast and sponsor contracts - new achievements

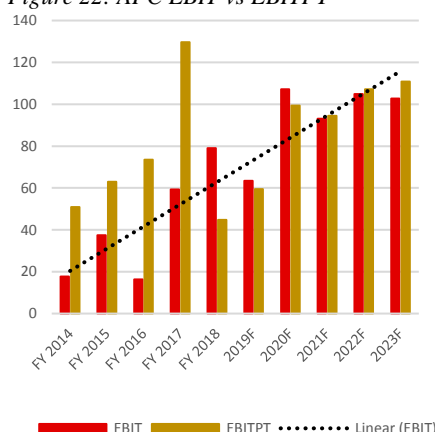
Arsenal revenues increased from £301.87m to £403.27 since 2014 till 2018, an average YoY increase of 7.51%. This uplift can be justified based on new sponsorship contracts with 8.50% average YoY increase, but also due to new cycles of broadcast contracts which are renegotiated with huge increases with an average YoY increase of 10.51%. Gate & Other Match Day Revenues were relatively stable with an average YoY decrease of -0.33%. Revenues just recorded decreases in absolute values in 2018. This decrease was due to the fail in participate on UCL, decreasing the broadcast revenue in 9.33% or 35.5% when looking separately for UEFA broadcasting revenues. In the future the Revenues are expected to outpace the historical growth, with new sponsor deals and broadcast contracts justifying the average YoY increase of 9.74% and 11.71% respectively, driving the Revenues to 7.77% CAGR during 2018-23.

Figure 21: AFC Revenue & Staff costs correlation



Source: AFC & AS computation

Figure 22: AFC EBIT vs EBITPT



Source: AFC & AS computation

Table 10: AFC Liquidity ratios

Liquidity Ratios	FY 2018	2023F
Current Ratio	1.46	1.70
Quick Ratio	1.08	1.42
Cash Ratio	0.94	1.34

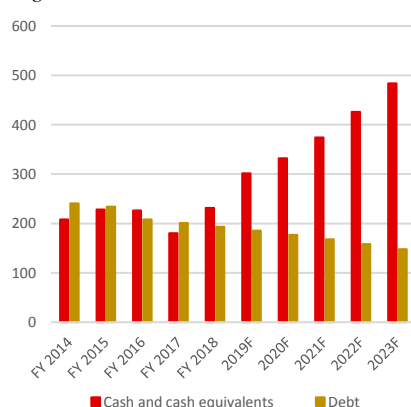
Source: AS computation

Table 11: AFC Profitability ratios

Profitability Ratios	FY 2018	2023F
EBITDA Margin	0.46	0.45
ROA	5.5%	5.3%
ROE	14.4%	10.6%

Source: AS computation

Figure 23: AFC Debt vs Cash



Source: AFC & AS computation

Major operating cost, staff costs, will keep following revenues pace

Staff costs were the major contributor of expenses during the past, with an average percentage of 53%. The increase of revenues lead clubs to invest in human resources to keep a competitive Football team. During 2014 to 2018 this operating expense suffer an average YoY increase of 7.58% which was very similar to Revenues increase. This correlation is expected to continue in the future with the staff costs following the Revenues tendency, with an YoY average increase of 7.15% (Figure 21)

EBIT vs EBITPT

Operating profit should be analyzed before and after player transactions as the clubs should be profitable without them as these operations are uncertain, volatile and in the case of AFC is not the core/crucial source of revenues. AFC has always recorded positive EBIT, increasing by 45.37% CAGR from 2014-18 to 78.98m. EBITPT is tendentially bigger than EBIT as the club sped more than gain in PT. Arsenal operating income is not dependent on player sales as the club adjust his purchases with the sales. The board of directors have expressed their desired to invest in the team to be even more competitive and is expected that this investment will increase soon but without putting in cause the financial sustainability of the club. Net book value of PRs are expected to record an CAGR of 13.80% from 2018-23F, climbing from 23.15% to 31.43% of Total Assets (Figure 22)

Liquidity

Current Ratio and Quick ratio have recorded values above 1 and it is expected to increase even more to 1.70 and 1.42 in 2023F, meaning that the club will be able to cover its short-term debt with its current assets. By looking at the cash flow statement it is easily observed that the company was generating cash in a sustainable way, with positive cash flows, and the forecast period follows the same path. (Table 10)

Profitability

The club has been able to generate positive net income in the past and I have predicted the same path for the future with an overall uplift of 36.57% from 2018-23F, increasing from £56,554m to £77,24m. Profitability ratios for 2023F are lower than 2018 values despite 6.4% CAGR for net income. The abnormal net income in 2018, justified by higher revenues than costs in PT can explained this decrease, as well as the higher CAGR of assets (7.05%) and equity (12.47%) (Table 11)

No more debt to finance CapEx in the near future

AFC assets enlarged over the last years due to the investment on PR, recorded as Intangible assets. The club has already constructed the stadium and the training camp, so is not expected to invest huge amounts in infrastructures in a near future. The players will be the responsible for the continually increase of the assets, with an expected average YoY of 7% for 2018-23F, or 13.8% by isolating PR. As AFC CapEx main items were the stadium and the training center, which needed to be financed by debt, now the club focused his investments in acquisitions of PR. Since this investment is dependent on revenues, the club does not need to contract more debt. In 2018FY the company recorded a negative net debt, and the difference between debt and cash will be bigger and bigger in the next few years (Figure 23).

8. Investment Risks

There are some risks that could potentially affect the company performance throughout the years. Risks were segmented into three main categories: Financial Risk (FR), Operational Risk (OR), Regulatory Risk (RR).

Financial Risk | Credit risk (FR1)

Credit risk refers to the risk that a counterparty will not pay its obligations, being that the group will not recover the value of the sold assets at the agreed timeline. This risk arises from transfer activity or any other agreements with sponsors or for broadcast rights. The risk could be minimized by asking for instalments, advance payments or even a guarantee from the bank, being that the club should do a regular monitorisation with a creation of a reserve for uncertain accounts receivable.

Financial Risk | Liquidity risk (FR2)

Liquidity risk concerns the risk of the group could not has access to funds to meet its payment obligations at the maturity date, being that available cash flow could not be enough. To guarantee appropriate levels of funds, the club forecast the cash flow on a continuous basis considering the debt resulted of the stadium construction, ensuring the normal operation of the business with the required debt service reserves. AFC has more than 20% of assets in cash, turning liquidity ratios favourable with values over one.

Financial Risk | Exchange rate fluctuations (FR3)

PL clubs can be exposed to exchange rate fluctuations through two sources: UEFA payments due to UCL or UEL participation; Player transactions with foreign clubs. Arsenal hedge his foreign exchange exposure by using derivative financial instruments.

Financial Risk | Change in interest rates (FR4)

Football clubs with outstanding debt finance that are subject to floating rates that could sudden change and have an impact on the club financial results, normally enter into interest rate swaps to fix the rate and eliminate the interest rate risk such as Arsenal does.

Financial Risk | Economic downturn (FR5)

Although multiyear contracts are present in the industry, an economic downturn in Europe or UK could affect revenues relative to personal disposable income like Matchday revenues. Broadcasting and Sponsorship revenues could also be affected if the companies affiliated to us suffer an economic impact and need to cut costs.

Operational Risk | UCL Qualification (OR1)

Qualification for UCL is an important achievement for the clubs as it implies a relevant part of revenues but also increase the prestige of them. The qualification depends on internal factors like last season performance in the PL or even in UEFA competitions but also on external factors such as the total places for each national football association for the UEFA competition which is based on a ranking that can vary. If a club doesn't qualify for UCL could see its ability to acquire or retain key players affected, as well as the interest of sponsors and supporters. To minimize this risk the clubs should include on the contract of player a clause related to the remuneration if the team fail to qualify for the group stage of the competition, which permit the club to adjust staff costs to the reduce of revenues.

Operational Risk | Players physical health (OR2)

Injuries can force players to stop play for a long period or even to end up early the football career. As an asset of the club, if a player suffers an injury that forces him to stop play, the club would not make profit with a possible transfer or get the aimed sport returns. To mitigate this risk the clubs should have a nice medical department and a competitive team with players able to substitute the injured teammates.

Operational Risk | Recruitment and retention of key employees (OR3)

Attract and maintain high-quality employees including managers, players or executives is crucial to achieve success inside and outside the pitch. The rivalry between clubs can lead clubs to incur in high salary expenses in order to attract top players, with the ones with higher revenues having also greater spending capacity. Transfer campaign is the way to control and manage the squad constitution, controlling also the wage costs. Any fail to acquire a key player or to sell an actual player can lead the club to unexpected costs or unsuccessful seasons.

Operational Risk | Negotiation of broadcast contracts (OR4)

Negotiation of broadcasting contracts are done by Premier League and UEFA on a centralized basis. The established final price and its distribution during the 3-year cycle affect the clubs and they don't have any direct influence alone on the outcome of the deal. Although the broadcast revenue is centralized and fixed, there are always an additional variable value due to sporting performance. The duration of 3 years seems to be a way to mitigate the short-term risk.

Operational Risk | Key sponsor agreements (OR5)

Sponsor deals are not permanent, and clubs should be aware that sponsor could not be interested in renewing the partnership. Change of interest from sponsors, reducing the investments, or difficult to find new sponsors with similar deal values could affect clubs' financial position with revenues recording an unexpected growth. Became a global club to attract sponsors worldwide, as well as close multiple-year contracts with large maturity dates can guarantee this source of revenue in the short-term, reducing this risk.

Operational Risk | Football popularity (OR6)

Football is the most popular sport in UK, entitled the national game. All this popularity helps the industry to increase revenues in all the key drivers, mainly broadcasting. A decline in football popularity could lead to a decrease of matchday, broadcasting or sponsorship revenues since there could be fewer people interested.

Operational Risk | Unexpected catastrophic events (OR7)

Companies within the industry can be affected by natural disasters, wars, terrorist acts or some incident like the airplane fall of the team which are out of clubs control. Although the European clubs' operations are in peaceful countries, players need to travel for promotional matches or to represent their national team in countries with a recent war history. Clubs should insure against any of these potential events with insurance policies, protecting their most valuable assets which are in the case of Arsenal, the Players, Emirates stadium and the training facilities.

Regulatory Risk | Financial Fair Play (RR1)

Arsenal is subject to Company Law, F.A, Premier League, UEFA and FIFA rules concerning club finances, accounting and good governance. The Premier League has implemented financial rules regarding the payment of transfer fees, tax bills or wages at time or even loss limits to Earnings before taxes, being obligated to submit accounts on an annual basis. The applicable sanctions include fines, deduction of points in the premier League or transfers restrictions. To be eligible to participate in European championships clubs should satisfy sporting, infrastructure, personal and administrative, legal and also financial standards, obtaining the UEFA License, created in 2004, that is also constituted by the FFP. In September 2009 UEFA's Executive Committee created the FFP in order to promote an improvement of clubs' financial conditions, increasing the credibility and transparency of them with the aim of ensure sustainability in the long-term for European football. Among the measures, break-even rule deserves a highlight. The acceptable deviation for the break-even is 5m euros or up to 30m euros if equity holders guaranteed funds to cover the difference. The break-even point should be calculated just with relevant costs without considering Capex in training facilities, stadiums, women's football and also youth developments. If the relevant costs exceed revenues, considering a cumulative value over three years, clubs can also be subject to UEFA sanctions. UEFA CFCB disciplinary

Table 12: sensitivity analysis 1

		Price Target
Terminal growth rate	2.18%	27,143.35
	2.08%	27,862.83
	1.98%	28,670.46
	1.89%	29,582.24
	1.79%	30,564.43
	1.70%	31,680.82
	1.62%	32,959.29

Source: AS computation

Table 13: sensitivity analysis 2

		Price Target
Risk free rate	1.71%	32,782.85
	1.81%	31,692.35
	1.90%	30,625.25
	2.00%	29,582.24
	2.10%	28,613.05
	2.21%	27,666.66
	2.32%	26,743.45

Source: AS computation

Table 14: sensitivity analysis 3

		Price Target
Unlevered beta	0.21	32,260.47
	0.22	31,358.66
	0.23	30,465.56
	0.24	29,582.24
	0.25	28,752.03
	0.27	27,932.43
	0.28	27,124.22

Source: AS computation

measures can vary depending on the situation and could be: warning; reprimand; fine; deduction of points; withholding of revenues from a UEFA competition; prohibition on registering new players in UEFA competitions; restriction on the number of players that a club may register for participation in UEFA competitions, including a financial limit on the overall aggregate cost of the employee benefits expenses of players registered on the A-list for the purposes of UEFA club competitions; disqualification from competitions in progress and/or exclusion from future competitions; withdrawal of a title or award.

Regulatory Risk | Legal and Regulatory (RR2)

The clubs are regulated by the rules of FIFA, UEFA and also by the country league rules so any change in these regulations can affect the clubs because the regulations cover different areas of the club's environment such like competitions format, prizes, division of broadcast income or the transfers rules.

Risks to Price Target

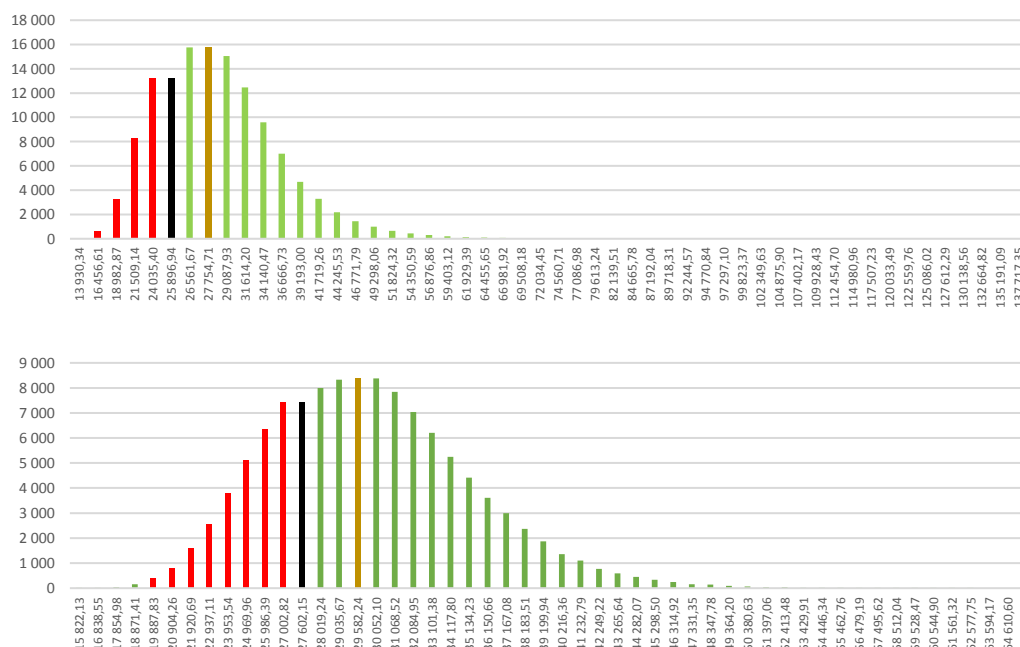
DCF model requires independent variables to be done and AFC final valuation is sensitive to the selected assumptions. In order to understand how the target price is affected by changes in different variables, I have performed isolated analysis and multi-variable changes analysis with Monte Carlo Simulation.

Three variables were picked to be stressed ceteris paribus, all of them in the TV: Terminal growth rate, RFR, Unlevered Beta (Appendix 11).

Terminal growth rate was adjusted to be in line with the forecasted UK GDP in 2023F. AFC target price is very sensitive to changes in this variable, since AFC has outperformed UK GDP during the years, assuming a lower value to this input would lead to a target price below the acquisition price (Table 12). Risk free rate was assumed to be 2% in TV, 153 basis points above UK 10Y bonds (table13). Higher RFR would decrease target price. Assumptions regarding peer's selection influence beta value. Lower betas would boost price target (Table 14).

Monte Carlo Simulation

With the intention of stress more than one variable at the same time Monte Carlo Simulation was performed, by using Crystal Ball Software. I decided to do it twice. Firstly I selected terminal WACC, terminal g and the ratio between expenditures in PR and income in PR. Secondly I decided to split WACC rate into two inputs: unlevered beta and RFR and still stressed the other two variables. The mean was £31,291.82 in the first simulation and £30,236.25 in the second one. These simulations were in line with the target price. The probability of the share price be higher than the acquisition value was 63.08% and 67.14%.



Appendices

Appendix 1: Financial Reports

AFC BALANCE SHEET	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	2019F	2020F	2021F	2022F	2023F	CAGR 18-23F
CURRENT ASSETS	293.17	323.27	304.81	265.64	359.81	414.09	451.65	495.00	552.30	613.26	11.25%
Cash and cash equivalents	207.88	228.17	226.46	180.12	231.34	301.81	331.78	374.37	426.03	483.64	15.89%
Inventories	14.78	14.27	15.98	19.66	13.69	5.43	5.43	5.43	5.43	5.43	-16.88%
Stock-retail merchandise	4.94	4.53	4.83	7.36	5.50	5.43	5.43	5.43	5.43	5.43	-0.25%
Stock - development properties	9.85	9.74	11.15	12.30	8.19	0.00	0.00	0.00	0.00	0.00	-100.00%
Trade Debtors or Trade Accounts Receivable	33.42	25.56	28.90	27.55	35.39	30.16	30.16	30.16	30.16	30.16	-3.15%
Prepayment and accrued income	24.86	35.99	23.96	30.97	15.86	26.33	26.33	26.33	26.33	26.33	10.67%
Other debtors - related to players transfers	12.23	19.29	9.51	7.36	63.53	50.36	57.95	58.72	64.35	67.70	1.28%
NON-CURRENT ASSETS	541.46	596.09	572.71	618.70	669.25	702.34	743.44	774.29	806.50	833.22	4.48%
Property, Plant & Equip, Net	421.40	419.18	421.06	430.97	424.81	416.81	407.29	396.05	382.92	367.69	-2.85%
LT Investments & Receivables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
Goodwill	1.50	1.08	0.67	0.25	0.00	0.00	0.00	0.00	0.00	0.00	n/a
Other Intangible Assets (net book value of PR)	114.99	171.66	146.01	182.03	238.25	278.39	328.08	369.22	413.62	454.64	13.80%
Investments in Affiliates	3.57	4.17	4.98	5.44	6.19	7.13	8.07	9.01	9.95	10.89	11.95%
TOTAL ASSETS	834.62	919.37	877.51	884.34	1,029.06	1,116.43	1,195.09	1,269.29	1,358.80	1,446.48	7.05%
CURRENT LIABILITIES	203.03	273.73	239.95	213.81	245.92	318.82	316.49	330.96	344.32	361.06	7.98%
Accounts Payable	11.40	7.62	10.77	8.90	9.91	9.72	9.72	9.72	9.72	9.72	-0.39%
Accrued Taxes	21.39	24.94	22.91	27.81	34.83	39.34	44.44	50.20	56.71	64.06	12.96%
Accruals and deferred income	132.56	173.27	156.47	132.32	142.58	147.44	147.44	147.44	147.44	147.44	0.67%
Other creditors	30.98	57.80	41.82	36.76	50.09	113.29	105.31	113.43	119.66	128.39	20.71%
ST Debt- Fixed rate bonds-secured	6.70	7.12	7.56	8.02	8.50	9.02	9.58	10.16	10.79	11.45	6.13%
NON-CURRENT LIABILITIES	320.97	314.96	309.51	307.17	363.23	335.91	337.38	328.75	326.30	320.00	-2.50%
Fixed rate bonds-secured	153.35	146.10	138.40	130.25	121.61	112.58	103.00	92.84	82.05	70.60	-10.30%
Floating rate bonds	52.57	52.43	48.04	48.18	48.31	48.45	48.59	48.72	48.86	49.00	0.28%
Debenture loans	27.83	28.21	14.20	14.60	15.01	15.41	15.83	16.24	16.67	17.10	2.64%
Deferred income	13.07	1.01	17.83	17.63	34.16	34.16	34.16	34.16	34.16	34.16	0.00%
Derivatives & Hedging	0.00	0.00	24.41	26.43	23.15	23.15	23.15	23.15	23.15	23.15	0.00%
Grants	3.80	3.71	3.62	3.53	3.44	3.35	3.26	3.17	3.08	2.99	-2.77%
Other creditors	15.87	32.92	18.97	23.56	64.32	48.97	56.34	57.09	62.57	65.82	0.46%
Provisions for Liabilities	54.49	50.60	44.05	43.00	53.23	49.85	53.06	53.38	55.77	57.18	1.44%
TOTAL LIABILITIES	524.00	588.70	549.45	520.97	609.14	654.73	653.87	659.71	670.62	681.06	2.26%
Share Capital & APIC	30.06	30.06	30.06	30.06	30.06	30.06	30.06	30.06	30.06	30.06	0.00%
Common Stock	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.00%
Additional Paid in Capital	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	0.00%
Retained Earnings	253.86	273.91	271.30	306.61	363.16	404.95	484.47	552.82	631.43	708.67	14.31%
Other Equity	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70	0.00%
TOTAL EQUITY	310.62	330.67	328.06	363.37	419.92	461.70	541.23	609.58	688.19	765.43	12.76%
TOTAL EQUITY AND LIABILITIES	834.62	919.37	877.51	884.34	1,029.06	1,116.43	1,195.10	1,269.29	1,358.81	1,446.49	7.05%

AFC INCOME STATEMENT	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	2019F	2020F	2021F	2022F	2023F	CAGR 18-23F
Revenue	301.87	344.52	353.54	423.96	403.27	436.06	501.73	508.38	557.18	586.15	7.77%
Football	298.66	329.34	350.62	422.80	388.23	406.07	501.73	508.38	557.18	586.15	8.59%
Broadcasting	120.76	124.84	140.58	198.64	180.10	185.27	239.56	244.36	286.29	313.31	11.71%
Premier League	0.00	96.50	100.95	139.64	142.04	145.63	157.28	158.66	160.06	172.86	4.01%
Uefa Competitions	0.00	28.34	39.63	59.00	38.06	39.63	82.28	85.70	126.23	140.45	29.84%
Commercial & Retail	77.15	103.29	106.91	117.23	106.92	118.16	159.53	161.37	168.24	170.19	9.74%
Gate & Other Match Day Revenues	100.23	100.40	99.91	100.00	98.91	99.89	99.89	99.89	99.89	99.89	0.20%
Player Trading	0.51	0.81	3.23	6.93	2.31	2.76	2.76	2.76	2.76	2.76	3.60%
Property Development	3.21	15.19	2.92	1.16	15.04	29.99	0.00	0.00	0.00	0.00	-100.00%
Operating Expenses											
Total depreciation, amortization and impairment	52.92	70.40	73.93	92.51	107.76	108.36	120.44	132.83	146.43	160.84	8.34%
Amortisation of goodwill	0.43	0.42	0.42	0.42	0.25	0.00	0.00	0.00	0.00	0.00	-100.00%
Amortisation of player registrations	40.07	54.43	59.26	77.13	85.81	91.23	101.67	112.25	123.84	136.04	9.65%
Impairment of player registrations	0.00	0.94	0.00	0.00	5.95	1.38	1.38	1.38	1.38	1.38	-25.37%
Depreciation and impairment charges	12.42	14.62	14.26	14.97	15.75	15.75	17.39	19.21	21.21	23.42	8.26%
Staff costs (without exceptional costs)	166.40	192.26	195.39	199.40	222.91	234.16	269.43	273.00	299.21	314.76	7.15%
Exceptional costs	0.00	0.00	0.00	0.00	17.15	0.00	0.00	0.00	0.00	0.00	-100.00%
Cost of property sales	2.70	2.04	0.82	0.63	9.42	18.78	0.00	0.00	0.00	0.00	-100.00%
Other operating charges	69.79	72.11	70.21	79.44	88.04	93.31	98.89	104.81	111.08	117.72	5.98%
Total Operating expenses	291.81	336.81	340.35	371.97	445.28	454.61	488.76	510.64	556.71	593.32	5.91%
Operating Profit before player transactions	10.06	7.71	13.19	51.99	-42.01	-18.55	12.97	-2.26	0.47	-7.17	-29.78%
Profit on Disposal of players registrations	6.91	28.94	2.05	6.76	120.05	95.16	109.50	110.95	121.60	127.92	1.28%
Share of joint venture operating results	0.71	0.76	1.00	0.60	0.94	0.94	0.94	0.94	0.94	0.94	0.00%
Operating Profit / EBIT	17.69	37.42	16.24	59.34	78.98	63.40	107.12	93.13	104.92	102.66	5.39%
Net finance charges	13.02	12.75	13.37	14.74	8.76	11.81	11.31	10.78	10.21	9.60	1.85%
Bank loans and overdrafts	0.00	0.01	0.03	0.01	0.00	0.01	0.01	0.01	0.01	0.01	35.10%
Fixed/floating rate bonds	12.76	12.36	12.22	11.74	11.26	10.88	10.37	9.84	9.27	8.67	-5.09%
Costs of raising long term finance	0.78	0.84	0.83	0.82	0.79	0.81	0.81	0.81	0.81	0.81	0.38%
Interest receivable	0.89	-0.83	-0.79	-0.37	-0.45	-0.31	-0.31	-0.31	-0.31	-0.31	-7.15%
Change in fair value of financial instruments	0.00	0.00	0.68	2.02	-3.29	0.00	0.00	0.00	0.00	0.00	-100.00%
EBT	4.67	24.67	2.87	44.61	70.21	51.58	95.81	82.35	94.71	93.06	5.79%
Uk tax on profit	0.00	0.00	0.57	8.85	13.34	9.80	16.29	14.00	16.10	15.82	3.47%
Total tax (charge)/credit for the year	2.60	-4.67	-1.22	-9.32	-13.66	-9.80	-16.29	-14.00	-16.10	-15.82	2.98%
NET PROFIT FOR THE YEAR	7.27	20.00	1.65	35.29	56.55	41.78	79.52	68.35	78.61	77.24	6.43%

AFC Cash Flow Statement	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	2019F	2020F	2021F	2022F	2023F
CASH FLOW FROM OPERATIONS	60.87	100.19	85.51	101.28	111.30	88.72	125.34	122.57	139.60	146.52
Operating profit/(loss)	10.06	7.71	13.19	51.99	-42.01	-18.55	12.97	-2.26	0.47	-7.17
Amortisation of player registrations	40.07	54.43	59.26	77.13	85.81	91.23	101.67	112.25	123.84	136.04
Impairment of player registrations	0.00	0.94	0.00	0.00	5.95	1.38	1.38	1.38	1.38	1.38
Amortisation of goodwill	0.43	0.42	0.42	0.42	0.25	0.00	0.00	0.00	0.00	0.00
Profit on disposal of tangible assets	0.00	0.27	-0.07	-0.02	-0.01	0.00	0.00	0.00	0.00	0.00
Depreciation	12.42	14.62	14.26	14.97	15.75	15.75	17.39	19.21	21.21	23.42
Provisions						-3.39	3.21	0.32	2.38	1.42
Operating cash flow before working capital	62.98	78.39	87.05	144.48	65.74	86.33	136.53	130.81	149.19	154.99
NWC										
Decrease/(increase) in stock	0.33	0.51	-1.71	-3.68	5.96	8.26	0.00	0.00	0.00	0.00
Decrease/(increase) in debtors	0.00	-4.98	9.71	-5.04	7.93	-5.24	0.00	0.00	0.00	0.00
Increase/(decrease) in creditors	0.00	28.48	-1.20	-26.73	43.65	9.18	5.10	5.76	6.51	7.35
Taxation paid	-2.45	-2.21	-8.33	-7.76	-11.98	-9.80	-16.29	-14.00	-16.10	-15.82
CASH FLOW FROM INVESTMENT ACTIVITIES	0.00	-59.63	-66.93	-127.29	-39.87	1.82	-75.27	-59.88	-67.81	-68.78
Interest received	0.00	0.86	0.75	0.48	0.40	0.31	0.31	0.31	0.31	0.31
Proceeds from sale of fixed assets	0.00	0.05	0.75	0.02	0.02	0.00	0.00	0.00	0.00	0.00
Purchase of fixed assets	0.00	-14.30	-14.23	-25.26	-11.64	-7.76	-7.87	-7.97	-8.08	-8.19
Player registrations *	-11.12	-46.24	-54.19	-102.52	-28.65	9.28	-67.72	-52.22	-60.04	-60.90
Payment for purchase of players	0.00	-71.70	-66.83	-111.46	-109.76	-99.06	-169.63	-162.40	-176.00	-185.48
Receipts from sale of players	0.00	25.46	12.64	8.94	81.11	108.33	101.91	110.18	115.96	124.57
CASH FLOW FROM FINANCING ACTIVITIES	0.00	-20.27	-20.29	-20.34	-20.20	-20.08	-20.09	-20.11	-20.12	-20.13
Interest paid	0.00	-12.99	-12.62	-12.25	-11.68	-12.12	-11.62	-11.08	-10.52	-9.91
Repayment of debt	0.00	-7.27	-7.67	-8.08	-8.52	-7.96	-8.48	-9.02	-9.60	-10.22
INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	54.42	20.29	-1.71	-46.34	51.23	70.47	29.97	42.58	51.67	57.60
Cash and cash equivalents at start of year	153.46	207.88	228.17	226.46	180.12	231.34	301.81	331.78	374.37	426.03
Cash and cash equivalents at end of year	207.88	228.17	226.46	180.12	231.34	301.81	331.78	374.37	426.03	483.64

Appendix 2: FR Commom size

Balance Sheet as a percentage of Total Assets

AFC BALANCE SHEET	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	2019F	2020F	2021F	2022F	2023F
CURRENT ASSETS	35.13%	35.16%	34.74%	30.04%	34.97%	37.09%	37.79%	39.00%	40.65%	42.40%
Cash and cash equivalents	24.91%	24.82%	25.81%	20.37%	22.48%	27.03%	27.76%	29.49%	31.35%	33.44%
Inventories	1.77%	1.55%	1.82%	2.22%	1.33%	0.49%	0.45%	0.43%	0.40%	0.38%
Stock-retail merchandise	0.59%	0.49%	0.55%	0.83%	0.53%	0.49%	0.45%	0.43%	0.40%	0.38%
Stock - development properties	1.18%	1.06%	1.27%	1.39%	0.80%	0.00%	0.00%	0.00%	0.00%	0.00%
Trade Debtors or Trade Accounts Receivable	4.00%	2.78%	3.29%	3.12%	3.44%	2.70%	2.52%	2.38%	2.22%	2.09%
Prepayment and accrued income	2.98%	3.91%	2.73%	3.50%	1.54%	2.36%	2.20%	2.07%	1.94%	1.82%
Other debtors - related to players transfers	1.47%	2.10%	1.08%	0.83%	6.17%	4.51%	4.85%	4.63%	4.74%	4.68%
NON-CURRENT ASSETS	64.87%	64.84%	65.26%	69.96%	65.03%	62.91%	62.21%	61.00%	59.35%	57.60%
Property, Plant & Equip, Net	50.49%	45.59%	47.98%	48.73%	41.28%	37.33%	34.08%	31.20%	28.18%	25.42%
LT Investments & Receivables	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Goodwill	0.18%	0.12%	0.08%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Intangible Assets (net book value of PR)	13.78%	18.67%	16.64%	20.58%	23.15%	24.94%	27.45%	29.09%	30.44%	31.43%
Investments in Affiliates	0.43%	0.45%	0.57%	0.62%	0.60%	0.64%	0.68%	0.71%	0.73%	0.75%
TOTAL ASSETS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
CURRENT LIABILITIES	24.33%	29.77%	27.34%	24.18%	23.90%	28.56%	26.48%	26.07%	25.34%	24.96%
Accounts Payable	1.37%	0.83%	1.23%	1.01%	0.96%	0.87%	0.81%	0.77%	0.72%	0.67%
Accrued Taxes	2.56%	2.71%	2.61%	3.14%	3.38%	3.52%	3.72%	3.96%	4.17%	4.43%
Accruals and deferred income	15.88%	18.85%	17.83%	14.96%	13.86%	13.21%	12.34%	11.62%	10.85%	10.19%
Other creditors	3.71%	6.29%	4.77%	4.16%	4.87%	10.15%	8.81%	8.94%	8.81%	8.88%
ST Debt- Fixed rate bonds-secured	0.80%	0.77%	0.86%	0.91%	0.83%	0.81%	0.80%	0.80%	0.79%	0.79%
NON-CURRENT LIABILITIES	38.46%	34.26%	35.27%	34.73%	35.30%	30.09%	28.23%	25.90%	24.01%	22.12%
Fixed rate bonds-secured	18.37%	15.89%	15.77%	14.73%	11.82%	10.08%	8.62%	7.31%	6.04%	4.88%
Floating rate bonds	6.30%	5.70%	5.47%	5.45%	4.69%	4.34%	4.07%	3.84%	3.60%	3.39%
Debenture loans	3.33%	3.07%	1.62%	1.65%	1.46%	1.38%	1.32%	1.28%	1.23%	1.18%
Deferred income	1.57%	0.11%	2.03%	1.99%	3.32%	3.06%	2.86%	2.69%	2.51%	2.36%
Derivatives & Hedging	0.00%	0.00%	2.78%	2.99%	2.25%	2.07%	1.94%	1.82%	1.70%	1.60%
Grants	0.45%	0.40%	0.41%	0.40%	0.33%	0.30%	0.27%	0.25%	0.23%	0.21%
Other creditors	1.90%	3.58%	2.16%	2.66%	6.25%	4.39%	4.71%	4.50%	4.60%	4.55%
Provisions for Liabilities	6.53%	5.50%	5.02%	4.86%	5.17%	4.46%	4.44%	4.21%	4.10%	3.95%
TOTAL LIABILITIES	62.78%	64.03%	62.61%	58.91%	59.19%	58.64%	54.71%	51.97%	49.35%	47.08%
Share Capital & APIC	3.60%	3.27%	3.43%	3.40%	2.92%	2.69%	2.52%	2.37%	2.21%	2.08%
Common Stock	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%
Additional Paid in Capital	3.59%	3.26%	3.42%	3.39%	2.92%	2.69%	2.51%	2.36%	2.21%	2.07%
Retained Earnings	30.42%	29.79%	30.92%	34.67%	35.29%	36.27%	40.54%	43.55%	46.47%	48.99%
Other Equity	3.20%	2.90%	3.04%	3.02%	2.59%	2.39%	2.23%	2.10%	1.96%	1.85%
TOTAL EQUITY	37.22%	35.97%	37.39%	41.09%	40.81%	41.36%	45.29%	48.03%	50.65%	52.92%
TOTAL EQUITY AND LIABILITIES	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Income Statement as a percentage of Revenues

AFC INCOME STATEMENT	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	2019F	2020F	2021F	2022F	2023F
Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Football	98.94%	95.59%	99.18%	99.73%	96.27%	93.12%	100.00%	100.00%	100.00%	100.00%
Broadcasting	40.00%	36.24%	39.76%	46.85%	44.66%	42.49%	47.75%	48.07%	51.38%	53.45%
Premier League	0.00%	28.01%	28.55%	32.94%	35.22%	33.40%	31.35%	31.21%	28.73%	29.49%
Uefa Competitions	0.00%	8.23%	11.21%	13.92%	9.44%	9.09%	16.40%	16.86%	22.66%	23.96%
Commercial & Retail	25.56%	29.98%	30.24%	27.65%	26.51%	27.10%	31.79%	31.74%	30.20%	29.04%
Gate & Other Match Day Revenues	33.20%	29.14%	28.26%	23.59%	24.53%	22.91%	19.91%	19.65%	17.93%	17.04%
Player Trading	0.17%	0.23%	0.91%	1.64%	0.57%	0.63%	0.55%	0.54%	0.50%	0.47%
Property Development	1.06%	4.41%	0.82%	0.27%	3.73%	6.88%	0.00%	0.00%	0.00%	0.00%
Operating Expenses										
Total depreciation, amortization and impairment	17.53%	20.43%	20.91%	21.82%	26.72%	24.85%	24.00%	26.13%	26.28%	27.44%
Amortisation of goodwill	0.14%	0.12%	0.12%	0.10%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%
Amortisation of player registrations	13.27%	15.80%	16.76%	18.19%	21.28%	20.92%	20.26%	22.08%	22.23%	23.21%
Impairment of player registrations	0.00%	0.27%	0.00%	0.00%	1.47%	0.32%	0.27%	0.27%	0.25%	0.23%
Depreciation and impairment charges	4.11%	4.24%	4.03%	3.53%	3.90%	3.61%	3.47%	3.78%	3.81%	4.00%
Staff costs (without exceptional costs)	55.12%	55.80%	55.27%	47.03%	55.27%	53.70%	53.70%	53.70%	53.70%	53.70%
Exceptional costs	0.00%	0.00%	0.00%	0.00%	4.25%	0.00%	0.00%	0.00%	0.00%	0.00%
Cost of property sales	0.90%	0.59%	0.23%	0.15%	2.34%	4.31%	0.00%	0.00%	0.00%	0.00%
Other operating charges	23.12%	20.93%	19.86%	18.74%	21.83%	21.40%	19.71%	20.62%	19.94%	20.08%
Total Operating expenses	96.67%	97.76%	96.27%	87.74%	110.42%	104.26%	97.42%	100.44%	99.92%	101.22%
Operating Profit before player transactions	3.33%	2.24%	3.73%	12.26%	-10.42%	-4.26%	2.58%	-0.44%	0.08%	-1.22%
Profit on Disposal of players registrations	2.29%	8.40%	0.58%	1.59%	29.77%	21.82%	21.82%	21.82%	21.82%	21.82%
Share of joint venture operating results	0.24%	0.22%	0.28%	0.14%	0.23%	0.22%	0.19%	0.18%	0.17%	0.16%
Operating Profit / EBIT	5.86%	10.86%	4.59%	14.00%	19.58%	14.54%	21.35%	18.32%	18.83%	17.51%
Net finance charges	4.31%	3.70%	3.78%	3.48%	2.17%	2.71%	2.25%	2.12%	1.83%	1.64%
Bank loans and overdrafts	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Fixed/floating rate bonds	4.23%	3.59%	3.46%	2.77%	2.79%	2.49%	2.07%	1.94%	1.66%	1.48%
Costs of raising long term finance	0.26%	0.24%	0.23%	0.19%	0.20%	0.19%	0.16%	0.16%	0.15%	0.14%
Interest receivable	0.29%	-0.24%	-0.22%	-0.09%	-0.11%	-0.07%	-0.06%	-0.06%	-0.06%	-0.05%
Change in fair value of financial instruments	0.00%	0.00%	0.19%	0.48%	-0.81%	0.00%	0.00%	0.00%	0.00%	0.00%
EBT	1.55%	7.16%	0.81%	10.52%	17.41%	11.83%	19.10%	16.20%	17.00%	15.88%
Uk tax on profit	0.00%	0.00%	0.16%	2.09%	3.31%	2.25%	3.25%	2.75%	2.89%	2.70%
Total tax (charge)/credit for the year	0.86%	-1.36%	-0.34%	-2.20%	-3.39%	-2.25%	-3.25%	-2.75%	-2.89%	-2.70%
NET PROFIT FOR THE YEAR	2.41%	5.80%	0.47%	8.32%	14.02%	9.58%	15.85%	13.44%	14.11%	13.18%

Cash Flow Statement as a percentage of CFO

AFC Cash Flow Statement	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	2019F	2020F	2021F	2022F	2023F
CASH FLOW FROM OPERATIONS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Operating profit/(loss)	16.53%	7.70%	15.42%	51.33%	-37.74%	-20.91%	10.35%	-1.84%	0.33%	-4.90%
Amortisation of player registrations	65.83%	54.33%	69.30%	76.15%	77.10%	102.82%	81.11%	91.58%	88.72%	92.85%
Impairment of player registrations	0.00%	0.93%	0.00%	0.00%	5.34%	1.55%	1.10%	1.12%	0.99%	0.94%
Amortisation of goodwill	0.70%	0.42%	0.49%	0.41%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%
Profit on disposal of tangible assets	0.00%	0.27%	-0.08%	-0.02%	-0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation	20.40%	14.59%	16.67%	14.78%	14.15%	17.76%	13.88%	15.67%	15.19%	15.98%
Provisions	0.00%	0.00%	0.00%	0.00%	0.00%	-3.82%	2.56%	0.27%	1.71%	0.97%
Operating cash flow before working capital	103.47%	78.24%	101.80%	142.65%	59.07%	97.30%	108.93%	106.72%	106.87%	105.78%
NWC	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Decrease/(increase) in stock	0.55%	0.51%	-2.00%	-3.63%	5.36%	9.31%	0.00%	0.00%	0.00%	0.00%
Decrease/(increase) in debtors	0.00%	-4.97%	11.35%	-4.97%	7.12%	-5.91%	0.00%	0.00%	0.00%	0.00%
Increase/(decrease) in creditors	0.00%	28.43%	-1.41%	-26.39%	39.22%	10.35%	4.07%	4.70%	4.66%	5.02%
Taxation paid	-4.02%	-2.20%	-9.74%	-7.66%	-10.76%	-11.05%	-13.00%	-11.42%	-11.53%	-10.80%
CASH FLOW FROM INVESTMENT ACTIVITIES	0.00%	-59.52%	-78.27%	-125.68%	-35.83%	2.06%	-60.05%	-48.85%	-48.57%	-46.94%
Interest received	0.00%	0.86%	0.87%	0.47%	0.36%	0.35%	0.25%	0.25%	0.22%	0.21%
Proceeds from sale of fixed assets	0.00%	0.05%	0.87%	0.02%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%
Purchase of fixed assets	0.00%	-14.28%	-16.64%	-24.94%	-10.46%	-8.75%	-6.28%	-6.50%	-5.79%	-5.59%
Player registrations *	-18.27%	-46.15%	-63.37%	-101.23%	-25.74%	10.46%	-54.03%	-42.60%	-43.01%	-41.57%
Payment for purchase of players	0.00%	-71.57%	-78.16%	-110.05%	-98.62%	-111.64%	-135.33%	-132.50%	-126.08%	-126.59%
Receipts from sale of players	0.00%	25.41%	14.79%	8.82%	72.88%	122.10%	81.31%	89.89%	83.07%	85.02%
CASH FLOW FROM FINANCING ACTIVITIES	0.00%	-20.23%	-23.73%	-20.08%	-18.15%	-22.63%	-16.03%	-16.41%	-14.41%	-13.74%
Interest paid	0.00%	-12.97%	-14.76%	-12.10%	-10.49%	-13.66%	-9.27%	-9.04%	-7.53%	-6.77%
Repayment of debt	0.00%	-7.26%	-8.97%	-7.98%	-7.66%	-8.97%	-6.76%	-7.36%	-6.88%	-6.97%
INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	89.41%	20.25%	-2.00%	-45.76%	46.03%	79.42%	23.91%	34.74%	37.01%	39.32%
Cash and cash equivalents at start of year	252.11%	207.49%	266.83%	223.59%	161.83%	260.75%	240.79%	270.69%	268.18%	290.77%
Cash and cash equivalents at end of year	341.52%	227.74%	264.83%	177.83%	207.85%	340.17%	264.71%	305.44%	305.19%	330.09%

Appendix 3: Key Performance Indicators

Key Financial Ratios	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	2020F	2019F	2021F	2022F	2023F
Liquidity Ratios										
Current Ratio	1.44	1.18	1.27	1.24	1.46	1.43	1.30	1.50	1.60	1.70
Quick Ratio	1.19	0.93	1.06	0.97	1.08	1.14	1.04	1.22	1.32	1.42
Cash Ratio	1.02	0.83	0.94	0.84	0.94	1.05	0.95	1.13	1.24	1.34
Efficiency Ratios										
Total Assets Turnover	0.37	0.39	0.39	0.48	0.42	0.43	0.41	0.41	0.42	0.42
Accounts Receivables Turnover	7.41	11.68	12.98	15.02	12.82	16.63	13.30	16.86	18.47	19.43
Profitability Ratios										
EBITDA Margin	23.4%	31.3%	25.5%	35.8%	46.3%	45.4%	39.4%	44.4%	45.1%	45.0%
EBIT Margin	5.9%	10.9%	4.6%	14.0%	19.6%	21.4%	14.5%	18.3%	18.8%	17.5%
Net Profit Margin	2.4%	5.8%	0.5%	8.3%	14.0%	15.8%	9.6%	13.4%	14.1%	13.2%
ROA	0.9%	2.2%	0.2%	4.0%	5.5%	6.7%	3.7%	5.4%	5.8%	5.3%
ROE	2.37%	6.24%	0.50%	10.21%	14.44%	15.86%	9.48%	11.88%	12.11%	10.63%
EPS	0.01%	0.03%	0.00%	0.06%	0.09%	0.13%	0.07%	0.11%	0.13%	0.12%
Solvency Ratios										
Debt Ratio	28.8%	25.4%	23.7%	22.7%	18.8%	14.8%	16.6%	13.2%	11.7%	10.2%
Long-term Debt Ratio	28.0%	24.7%	22.9%	21.8%	18.0%	14.0%	15.8%	12.4%	10.9%	9.5%
Debt to Equity Ratio	0.77	0.71	0.63	0.55	0.46	0.33	0.40	0.28	0.23	0.19
Debt to EBITDA	3.41	2.17	2.31	1.32	1.04	0.78	1.08	0.74	0.63	0.56
Interest Coverage Ratio	1.36	2.93	1.21	4.03	9.01	9.47	5.37	8.64	10.28	10.69
Value Creation and Cash Flow Ratios										
Debt Coverage	0.03	0.09	0.01	0.18	0.29	0.45	0.23	0.41	0.50	0.52
Cash to Income	0.29	0.44	0.38	0.56	0.48	0.38	0.29	0.33	0.33	0.30

Appendix 4: Top tier European competitions winners

	 CHAMPIONS LEAGUE					
						
2017/18	Real Madrid	 Manchester City	 Bayern Munich	 Juventus FC	 FC Barcelona	 Paris Saint-Germain
2016/17	Real Madrid	 Chelsea FC	 Bayern Munich	 Juventus FC	 Real Madrid	 AS Monaco
2015/16	Real Madrid	 Leicester City	 Bayern Munich	 Juventus FC	 FC Barcelona	 Paris Saint-Germain
2014/15	FC Barcelona	 Chelsea FC	 Bayern Munich	 Juventus FC	 FC Barcelona	 Paris Saint-Germain
2013/14	Real Madrid	 Manchester City	 Bayern Munich	 Juventus FC	 Atlético Madrid	 Paris Saint-Germain
2012/13	Bayern Munich	 Manchester United	 Bayern Munich	 Juventus FC	 FC Barcelona	 Paris Saint-Germain
2011/12	Chelsea FC	 Manchester City	 Borussia Dortmund	 Juventus FC	 Real Madrid	 HSC Montpellier
2010/11	FC Barcelona	 Manchester United	 Borussia Dortmund	 AC Milan	 FC Barcelona	 LOSC Lille
2009/10	FC Internazionale	 Chelsea FC	 Bayern Munich	 FC Internazionale	 FC Barcelona	 Olympique Marseille
2008/09	FC Barcelona	 Manchester United	 VfL Wolfsburg	 FC Internazionale	 FC Barcelona	 FC Gir. Bordeaux

Appendix 5: Peer's selection

Multiple Valuation should start with the peers identification and according to Global Industry Classification Standard (GICS) Arsenal is classified as an Entertainment company, however the quoted football clubs are just a small part of the entire segment and so data from entertainment industry is not representative of football segment due to huge differences in key drivers of profitability or target customers. Based on this fact, a deep look of the entertainment companies should be done to select just the quoted football clubs as the correct peer group. Unfortunately, the major part of the sportive clubs that were defined as closest sportive rivals of Arsenal are not quoted, and so I had to take another approach to have a reasonable amount of comparable companies. I started by selected all the quoted European football clubs. The second step was to perform a cluster analysis by removing the clubs that were not in the Top 30 of UEFA Ten-year club coefficients, which rank the clubs according to the sportive performance. Variables as profitability, risk, and growth were not taken into consideration to perform the cluster analyses because it just would serve to cut the shortlist of few European clubs that are publicity traded. The resulting peer group reached with this process was composed by seven firms from five different countries. Olympique Lyonnais Groupe SA, Sport Lisboa e Benfica-Futebol SAD ,Futebol clube do Porto, Juventus Football Club SpA, Borussia Dortmund GmbH & Co KgaA, AS Roma SpA and Manchester United Plc were the final peer group.

Appendix 6: Transfers Assumption

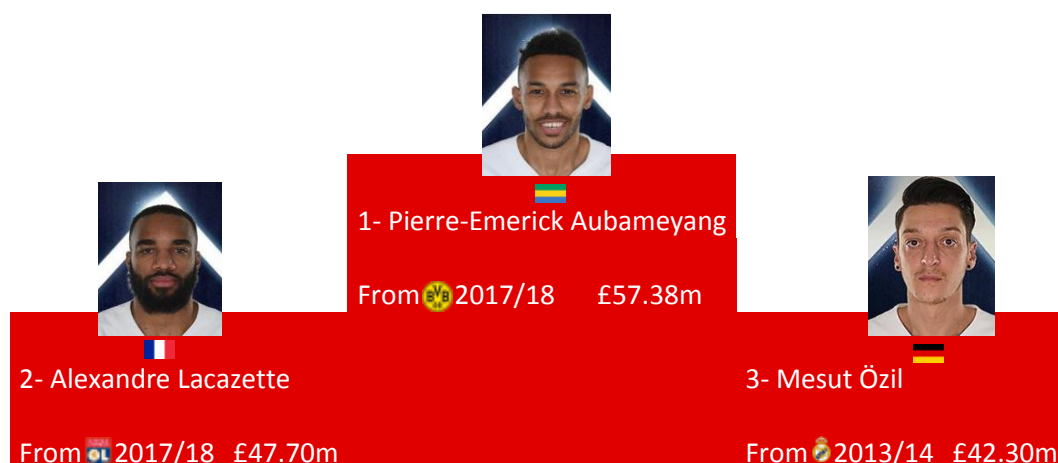
Transfers assumption was done based on the values of the sportive peers, the ones that have dominated national and international competitions. With TransferMarkt as source, was calculated the ratio of the amount spent in acquisitions of player registrations and the amount received with the disposal of player registrations. This ratio was calculated for the last three seasons. The ratios of FC Porto and SL Benfica were excluded due to the differences in the approach of the transfers market which would bias the final target ratio. The average of the median of each year were used to eliminate some extreme values, with an average of 1.54.

Season 2015/16					Season 2016/17					Season 2017/18				
#	Club	Expenditures	Income	Exp/Inc	#	Club	Expenditures	Income	Exp/Inc	#	Club	Expenditures	Income	Exp/Inc
1	ENG Manchester City	187.47	60.69	3.09	1	ENG Manchester City	192.15	31.82	6.04	1	SPA FC Barcelona	337.05	209.25	1.61
2	ENG Manchester United	140.40	91.86	1.53	1	ITA Juventus FC	176.24	157.42	1.12	1	ENG Manchester City	285.75	82.22	3.48
1	ITA Juventus FC	136.53	71.57	1.91	2	ENG Manchester United	166.50	42.44	3.92	2	ENG Chelsea FC	234.45	180.54	1.30
2	SPA Atlético Madrid	129.25	145.80	0.89	1	FRA Paris Saint-Germain	121.05	53.82	2.25	1	FRA Paris Saint-Germain	214.20	88.56	2.42
3	ENG Liverpool FC	112.86	81.50	1.38	3	ENG Chelsea FC	119.52	97.56	1.23	4	ENG Manchester United	178.56	40.95	4.36
1	FRA Paris Saint-Germain	104.49	20.61	5.07	1	SPA FC Barcelona	112.28	30.42	3.69	5	ENG Liverpool FC	156.49	175.05	0.89
3	SPA Real Madrid	83.25	14.09	5.91	4	ENG Arsenal FC	101.74	9.32	10.92	2	ITA Juventus FC	146.61	131.13	1.12
5	ENG Chelsea FC	81.45	78.74	1.03	5	ENG Tottenham Hotspur	75.15	47.07	1.60	6	ENG Arsenal FC	137.57	140.58	0.98
7	ENG Tottenham Hotspur	63.90	78.82	0.81	6	ENG Liverpool FC	71.91	76.84	0.94	7	ENG Tottenham Hotspur	109.35	93.42	1.17
4	SPA FC Barcelona	45.90	34.47	1.33	3	SPA Atlético Madrid	71.10	37.80	1.88	2	SPA Atlético Madrid	91.80	75.15	1.22
21	ENG Arsenal FC	23.85	2.25	10.60	6	SPA Real Madrid	27.00	33.75	0.80	6	SPA Real Madrid	36.45	115.65	0.32

Median	104.49	71.57	1.53	Median	112.28	42.44	1.88	Median	156.49	115.65	1.22
Average	100.85	61.85	3.05	Average	112.24	56.21	3.13	Average	175.30	121.14	1.71

Outliers- Different market transfers approach					Outliers- Different market transfers approach					Outliers- Different market transfers approach				
1	FC Porto	38.97	126.68	0.31	1	SL Benfica	39.39	109.22	0.36	2	FC Porto	22.40	63.18	0.35
2	SL Benfica	31.82	93.87	0.34	2	FC Porto	38.19	13.55	2.82	3	SL Benfica	8.96	123.48	0.07

Appendix 7: AFC most expensive PT



Appendix 8: WACC Assumptions

WACC Computation							
	FY 2018	2019F	2020F	2021F	2022F	2023F	Terminal Value
Corporate Tax	20%	19%	19%	17%	17%	17%	17%
Unlevered Beta	0.241	0.241	0.241	0.241	0.241	0.241	0.241
Levered Beta	0.258	0.258	0.257	0.257	0.256	0.255	0.255
Country risk premium (CRP)	0.69%	0.69%	0.69%	0.69%	0.69%	0.69%	0.69%
Market Risk Premium (MRP)	6.65%	6.65%	6.65%	6.65%	6.65%	6.65%	6.65%
Market Risk	7.12%	7.25%	7.41%	7.62%	7.88%	8.22%	8.65%
RFR	0.47%	0.60%	0.76%	0.97%	1.23%	1.57%	2.00%
Equity Market Value (E)	2,146	2,146	2,146	2,146	2,146	2,146	2,146
Debt Book Value (D)	193.43	185.47	176.99	167.97	158.37	148.15	150.94
V	2,339.61	2,339.61	2,339.61	2,339.61	2,339.61	2,339.61	2,339.61
D/E	0.09	0.09	0.08	0.08	0.07	0.07	0.07
Equity Weights	91.73%	91.78%	91.82%	91.87%	91.91%	91.96%	92%
Debt Weights	8.27%	8.22%	8.18%	8.13%	8.09%	8.04%	8.00%
Cost of Equity (Re)	2.88%	3.00%	3.16%	3.37%	3.63%	3.96%	4.39%
Cost of Debt (Rd)	5.82%	5.86%	5.86%	5.86%	5.85%	5.85%	5.85%
WACC	3.02%	3.15%	3.29%	3.49%	3.72%	4.03%	4.42%
Terminal Growth rate							1.89%

Cost of Debt was calculated according to debt book value, as a proxy of market value. AFC incurred into three different debt financings: Fixed rate bonds, Floating rate bonds and debentures loans. For all these sources of capital, AFC has fixed the interest rate by using financial instruments. Fixed rate bonds have an average fixed rate of 5,8%, floating rate bonds have 7% and debenture loans 2,8%. Repayments of debt divided by total debt is the cost of debt, ranging from 5,82% to 5,85%.

$$R_d = \frac{\text{Interest expense}}{\text{Debt}}$$

Cost of Equity was calculated by using CAPM. In order to apply CAPM model, four different variables were needed. Since AFC is a UK based company, and the demand is mainly locally related, I decided to use UK as the starting point to select the RFR, CRP and MRP. Cost of equity ranges from 2.88% to 4.39%.

$$R_e = RFR + CRP + \beta_L \times MRP$$

Market Risk Premium and Country Risk Premium: MRP and CRP were extracted from Damodaran database. CRP should be applied when some political instability is present in the related country, as the case of UK with Brexit. MRP was defined at 6,65% and CRP assumed a value of 0,69%. MRP can be calculated by using Sharpe ratio. This ratio should be the average return of UK index minus 10Y UK bonds per unit of UK Index volatility.

Risk-Free Rate: The reference for RFR was the UK 10Y bonds, using Bloomberg as source.

Beta- Pure-Play Method: I decided to use the Pure-Play method to calculate the Levered Beta of Arsenal. To perform this method, I started by collecting the levered betas of the companies defined as the peer group from Bloomberg as well as their capital structures and tax rates to have inputs to deleverage all the betas. I calculated a weight average of the betas considering a percentage of 66.66% to Manchester United and 33.33% for the remaining peers.

	Levered Beta	Index	Debt to Equity	tax rate	Unlevered beta
OLG FP	0.58	CAC	1.051	32%	0.338
FCP PL	0.12	PSI20	(7.313)	21%	(0.025)
SLBEN PL	0.96	PSI20	1.963	21%	0.376
JUVE IM	1.23	FTSEMIB	4.569	24%	0.275
BVB GR	0.77	DAX	0.033	33%	0.753
ASR IM	0.77	FTSEMIB	(2.527)	24%	(0.837)
MANU US	0.61	SPX	1.411	21%	0.288
Weight Average					0.241

The resulting estimated unlevered beta was levered by using Arsenal capital structure market value as well as the effective tax rate for each year.

$$\beta_L = \beta_U \times \left[1 + \frac{D}{E} \times (1 - t) \right]$$

Weight Average Cost of Capital: WACC was calculated based on Debt and Equity Market Value. For equity value was considered the share price of the last trading day (£34,495) multiplied by total shares. Debt book value was used as an approximation of debt market value.

$$WACC = Re \times \frac{E}{E + D} + Rd \times \frac{D}{D + E} \times (1 - t)$$

Terminal Value Assumptions

TV WACC rate was done by assuming a target Capital Structure of 8% Debt and 92% Equity. RFR was adjusted to converge to 2% in the TV. TV growth rate was obtained by using Reinvestment rate and ROE. The resulting TV g was adjusted to converge for UK GDP in 2023F, the last forecast year. To adjust the TV g a reduction of 100 basis points was done, to a final value of 1.89%, in line with the UK GDP forecast of 1.69%. TV free cash flow was calculated by multiplying the last FCFF with TV growth rate.

$$TV = \frac{FCFF_{2023F} \times g}{g - WACC_{long-term}}$$

$$g = \text{Reinvestment rate} \times ROE$$

$$\text{Reinvestment rate} = \frac{(CAPEX - D\&A) + \Delta NWC}{EBIT(1 - t)}$$

$$ROE = ROA + \frac{D}{E} \times [ROA - R_d \times (1 - t)]$$

$$ROA = \frac{EBIT(1 - t)}{Assets}$$

$$FCFF_i = EBIT_t \times (1 - t) + D\&A_t - CapEx_t - \Delta NWC_t$$

Appendix 9: DCF

Map of Cash Flows							
	2018	2019	2020	2021	2022	2023	TV
EBIT(1-t)	63.15	51.35	86.77	77.30	87.08	85.21	
D&A	107.76	108.36	120.44	132.83	146.43	160.84	
CapEx	175.51	154.66	176.89	179.24	195.78	205.65	
Change in WCR	(57.54)	(12.20)	(5.10)	(5.76)	(6.51)	(7.35)	
FCFF	52.93	17.24	35.42	36.65	44.23	47.74	48.64

WACC Method							
PV(FCFF) by using WACC	52.93	17.79	37.79	40.62	51.20	58.17	1,544.11

Appendix 10: Multiples Valuation

EV/EBITDA	FY 2015	FY 2016	FY 2017	FY 2018
OLG FP	666.78	5.10	3.95	2.28
FCP PL	1.25	8.17	4.31	4.08
SLBEN PL	4.08	3.75	2.70	2.60
JUVE IM	3.94	3.47	2.24	4.37
BVB GR	4.69	4.40	7.44	3.69
ASR IM	29.25	2.62	2.86	4.26
MANU US	14.94	13.61	10.90	15.14
Weight Average	12.71	10.46	8.48	11.25
Total Average	10.73			

EV/EBITDA	
AFC EBITDA	186.73
Multiple	10.73
EV	2,002.90
AFC Debt	(37.91)
Outstanding shares	62,217
Share Price	32,801.51
Difference	11.50%

Appendix 11: Sensitivity Analysis

Terminal growth rate	WACC TV							
	29,582.24	3.79%	3.99%	4.20%	4.42%	4.65%	4.88%	5.12%
	1.62%	34,522.53	31,760.62	29,317.13	27,143.35	25,289.99	23,617.41	22,102.64
	1.70%	35,760.51	32,787.77	30,174.52	27,862.83	25,901.57	24,139.22	22,549.32
	1.79%	37,177.47	33,954.85	31,142.46	28,670.46	26,584.77	24,719.60	23,044.20
	1.89%	38,812.94	35,290.65	32,242.27	29,582.24	27,351.89	25,368.10	23,594.74
	1.98%	40,618.69	36,751.75	33,435.47	30,564.43	28,173.33	26,058.84	24,178.36
	2.08%	42,728.78	38,441.01	34,802.47	31,680.82	29,100.87	26,834.26	24,830.13
	2.18%	45,223.98	40,413.88	36,382.19	32,959.29	30,155.13	27,709.83	25,561.79

Risk free rate	Country risk premium (CRP) TV							
	29,582.24	0.59%	0.62%	0.66%	0.69%	0.72%	0.76%	0.80%
	1.71%	34,071.98	33,652.64	33,222.86	32,782.85	32,355.02	31,918.38	31,473.18
	1.81%	32,889.98	32,500.78	32,101.52	31,692.35	31,294.12	30,887.29	30,472.08
	1.90%	31,736.64	31,375.81	31,005.31	30,625.25	30,255.00	29,876.39	29,489.60
	2.00%	30,612.48	30,278.31	29,934.87	29,582.24	29,238.39	28,886.45	28,526.56
	2.10%	29,570.67	29,260.32	28,941.10	28,613.05	28,292.89	27,964.91	27,629.23
	2.21%	28,555.93	28,267.98	27,971.55	27,666.66	27,368.85	27,063.51	26,750.73
	2.32%	27,568.48	27,301.56	27,026.54	26,743.45	26,466.70	26,182.72	25,891.57

D/E	Unlevered Beta							
	29,582.24	0.21	0.22	0.23	0.24	0.25	0.27	0.28
	0.060	32,400.03	31,496.97	30,602.46	29,717.57	28,885.72	28,064.35	27,254.24
	0.063	32,355.73	31,453.07	30,559.00	29,674.61	28,843.28	28,022.46	27,212.96
	0.067	32,309.25	31,407.00	30,513.40	29,629.53	28,798.75	27,978.52	27,169.65
	0.070	32,260.47	31,358.66	30,465.56	29,582.24	28,752.03	27,932.43	27,124.22
	0.074	32,211.85	31,310.48	30,417.88	29,535.11	28,705.48	27,886.50	27,078.96
	0.078	32,160.96	31,260.05	30,367.98	29,485.80	28,656.77	27,838.45	27,031.61
	0.081	32,107.71	31,207.30	30,315.78	29,434.21	28,605.82	27,788.18	26,982.08

Appendix 12: Arsenal Holdings Limited subsidiary companies (* = indirectly held)

Arsenal Holdings Limited			
Subsidiary Name	Country of Incorporation	Principal activity	Ordinary shares owned
Arsenal (AFC Holdings) Limited	Great Britain	Share holding	100%
The Arsenal Football Club plc*	Great Britain	Professional football club	100%
Arsenal (Emirates Stadium) Limited*	Great Britain	Property development	100%
Arsenal Overseas Holdings Limited*	Great Britain	Share holding	100%
AOH-USA, LLC*	USA	Data management	100%
Arsenal Overseas Limited*	Jersey	Retail operations	100%
Arsenal Securities plc*	Great Britain	Financing	100%
Arsenal Stadium Management Company Limited*	Great Britain	Stadium operations	100%
ATL (Holdings) Limited	Great Britain	Share holding	100%
Ashburton Trading Limited*	Great Britain	Property development	100%
HHL Holding Company Limited	Great Britain	Share holding	100%
Highbury Holdings Limited*	Great Britain	Property holding	100%
Arsenal Women Football Club Limited*	Great Britain	Women's football	100%
Arsenal Football Club Asia PTE Limited*	Singapore	Commercial operations	100%
Ashburton Properties (Northern Triangle) Limited*	Great Britain	Dormant	100%
Drayton Park Trading Limited*	Great Britain	Dormant	100%
Queensland Road Trading Limited*	Great Britain	Dormant	100%
Ashburton Properties Holdings Limited	Great Britain	Dormant	100%
Arsenal Stadium Management Holdings Limited	Great Britain	Dormant	100%

Abbreviations

AFC- Arsenal Holdings PLC
AFConf - Asian Football Confederation
AS- André Salvado
b- billions
BS- Balance Sheet
CAF-Confédération Africaine de Football
CAGR Compounded Annual Growth Rate
CapEx Capital Expenditure
CAPM Capital Asset Pricing Model
CONCACAF-Confederation of North, Central America and Caribbean Association Football
CONMEBOL -Confederations Sudamericana de Fútbol
CRP- Country risk premium
D- Debt
D&A- Depreciations & Amortizations
E- Equity
EBIT- Earnings Before Interest and Taxes
EBITDA- Earnings Before Interest, Taxes, Depreciation and Amortization
EBITPT- Earnings before interest taxes and Players Transfers
EU- European Union
EV Enterprise Value
F- Forecast
FCF- Free Cash Flow
FCFF- Free Cash Flow to the Firm
FFP- Financial Fair Play
FIFA-Fédération International de Football Association
FY- Fiscal Year
GDP- Gross Domestic Product
IS- Income Statement
KPI- Key Performance Indicators
m- millions
MRP- Market Risk Premium
NWC- Net Working Capital
OFC -Oceania Football Confederation
PL- Premier League
PPE- Property Plant and Equipment
PR- Player Registration
PT- Player Transaction
Rd- Cost of Debt
Re- Cost of Equity
RFR- Risk Free Rate
ROA- Return on Assets
ROE- Return on Equity
TV- Terminal Value
UCL- UEFA Champions League
UEFA -Union des associations européennes de football
UEL- UEFA Europe League
Y- Year
YoY- Year on Year

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